

# **TECHNICAL ANALYSIS**



## **PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT**

### **2002 READING AND MATHEMATICS PSSA**

**DATA RECOGNITION CORPORATION**

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# THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT 2002

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# Chapter 1: Introduction

## PSSA: THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT

The purposes of the 2002 statewide assessment component of the Pennsylvania System of School Assessment, as specified in the new Chapter 4 Regulations, include providing:

(1) an understanding of the students' and schools' achievement of the academic standards to students, parents, educators and community citizens, (2) a measure of the degree to which school programs enable students to attain the academic standards, (3) results to school districts, charter schools and AVTSs, Intermediate Units, Private Residential Rehabilitative Institutions, Approved Private Schools, Non-public and private schools for use in their strategic plans, (4) information to the general public and state policymakers regarding school achievement of the academic standards, and (5) aggregated results for all students as well as for Individualized Education Plan (IEP) and non-IEP students.

The broad purpose of the State Assessments is to provide information to teachers and schools to guide the redesign of curricula and instructional strategies to enable students to achieve the academic standards. The areas assessed in 2002 are mathematics and reading at grades 5, 8 and 11. *The Department strongly discourages the use of this testing information for the purpose of "ranking" schools.*

## **TYPES OF ASSESSMENT MEASURES**

The PSSA mathematics assessment employs two types of test items: multiple-choice and open-ended. These provide differing types of information about mathematics achievement.

### **MULTIPLE-CHOICE ITEMS**

The majority of the mathematics items included in the PSSA are multiple-choice items. Multiple-choice questions are also termed “selected-response” since students choose their answers from among those provided. Such items are an efficient means of assessing a broad range of curriculum. They are relatively easy to develop and can be administered in a short amount of time.

In the PSSA mathematics assessment, all multiple-choice items have only one correct response choice and the student is awarded one point for choosing it. For all items, students are provided with four response choices.

Multiple-choice questions can be used to assess a variety of skill levels, from short-term recall of facts to problem solving. The great majority of the PSSA multiple-choice mathematics questions require students to carry out some process to find their answers, rather than simply recalling information from memory.

### **OPEN-ENDED TASKS**

Open-ended tasks require students to read a problem or task description and to write out their answers. Major components of such answers are both students’ clear presentations of their computations and their explanations of the steps they followed in solving the problem. The types of tasks utilized do not always require solving a problem involving computations. Students may also be asked to perform such tasks as drawing a graph, shading some portion of a figure or listing object combinations that meet specified criteria.

Open-ended tasks are especially useful for measuring students’ problem-solving skills in mathematics. In most of these tasks students are asked to show how they arrived at an answer or what thinking was behind the answer they gave. The tasks present real-life situations that require students to solve problems using math abilities learned in the classroom. There are no response choices on the page as with multiple-choice items. Students must read the task carefully, select the necessary information, devise a method of solution, perform the calculations, enter the response directly on the page on which the task is presented and explain the procedure to support the given response. This provides insight into the students’ knowledge, mathematical abilities and reasoning processes.

Open-ended tasks are scored in terms of a continuum of correctness. This continuum is defined by a “rubric,” which outlines what the general requirements are at each scale point. Then, scoring guidelines based upon the general rubric are developed to score individual items. The rubric approach to scoring has made it possible to include open-ended tasks in large-scale assessments, such as the PSSA. Persons who have received training in applying the rubric can score large numbers of student papers in a highly reliable way.

## **TYPES OF ASSESSMENT MEASURES**

The PSSA reading assessment employs two types of test items: multiple-choice and performance tasks. They are designed to measure students’ comprehension of the information contained in the reading passages and their ability to respond to them.

### **MULTIPLE—CHOICE ITEMS**

Multiple-choice/selected-response items measure such concepts as how well students comprehend the overall meaning of a passage or make basic inferences about it. At times, asking students to choose a preferred answer is the best way to determine whether they have gleaned certain important information from a story. Such information may include setting, central idea or main events and their chronology.

*Single-response multiple-choice* items are the familiar four response choices with one correct answer type. The student is awarded one score point for choosing the correct response. All multiple-choice items at grades 5 and 8 and the multiple-choice items in the grade 11 matrix sections are of this type. Distractors (incorrect responses) appeal to some kind of misinterpretation, predisposition, unsound reasoning or casual reading.

### **PERFORMANCE TASKS**

**Performance tasks** are designed to address comprehension of text in ways that multiple-choice items cannot. A written response allows students to reflect on what they have read, integrate prior/background knowledge with text-based information, extend meaning and express their ideas.

These tasks are scored using the **Pennsylvania Reading Assessment Rubric**. This four-point scoring rubric clearly describes a range of performance requirements at each level from minimal to very accomplished. Each task is carefully constructed to reflect the scoring rubric and to be text-dependent. Students may have the Pennsylvania Reading Assessment Rubric, a thesaurus, and a dictionary when responding to a performance task.

The rubric approach to scoring has made it possible to include performance tasks in large-scale reading assessments, such as the PSSA. The rubric approach also provides a highly reliable way to score a large number of student papers by persons who have received training in applying the rubric.

The rubric describes a hierarchy of responses containing each of the following three elements:

- *Understanding of the text* is demonstrated through a response that is both text-based and factual.
- *Level of comprehension of the text* is demonstrated through levels of thinking, from literal to personal, critical or evaluative responses.
- *Connection to the text* is demonstrated through responses that make connections to and go beyond the text.

### **MATRIX SAMPLING ASSESSMENT DESIGN**

The PSSA was originally designed as a complex matrix-sampling scheme, which was very efficient for measuring *school-level* performance but less efficient for providing *student-level* assessments and diagnostics. In this design, there is a *common* core of items that all students respond to and blocks of *matrix* items that are form specific. The matrix forms are *spiraled* within classrooms so that all forms are distributed uniformly within each classroom. This ensures that each matrix form is administered to an unbiased and effectively random sample of students in each school.

Since multiple forms are administered within each classroom, every student potentially could take a different set of items. This allows the assessment to cover a wide range of topics at the classroom level. Comparisons between students are more problematic because they not only took different items, but they may have been tested on different topics.

Both the common and matrix sections of the PSSA use traditional multiple-choice items and more innovative open-ended performance tasks. Psychometrically, multiple-choice items are very useful and efficient tools for collecting information about a student's academic status. Open-ended performance tasks are less efficient in the sense that they generate fewer scoreable points in the same amount of testing time. They do, however, provide tasks that are more realistic and better sample the higher-level skills. The design of the PSSA attempts to achieve a reasonable balance between the two formats.

The design changes that began to take effect with the spring 2000 administration have shifted the focus of the measurement toward the student and away from the school. Beginning in 2000, student-level results were reported on the **Individual Student Report (ISR)** with diagnostic results at the *academic content standard* level. All student-level results are based on the common items only and presented in the raw-score percent-correct metric only<sup>1</sup>. In order to accommodate this change in focus, the common section

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<sup>1</sup> While the student-level scaled scores are not reported on the ISR, they are used for many of the underlying calculations.

has been expanded to better reflect the curriculum. Unfortunately, to administer the tests in a reasonable length of time, enhancing the common sections came at the expense of the matrix sections.

The PSSA design is an attempt to have the best of both worlds:

- All student-level results are based on the common core of all items that all students in a grade were administered. This ensures that all students are treated equally.
- All school-level results are based on the greater breadth of the matrix-sampling design. This enables the school-level results to better sample the entire curriculum.

Unfortunately, these dual objectives require some compromises:

- Many of the content standards are assessed with a minimal number of items. Consequently, scores reported at this level in any metric would have large standard errors and are at risk of over-interpretation.
- The mean of the student level scores will not necessarily equal the school-level score because they rely on different sets of items. They will be *statistically* equal since both are estimates of the same school-level status but there is no reason to expect that they will be numerically equal.

### **CHANGES IN 2002**

A minimum scale score of 700 was implemented for all PSSA reading, mathematics and writing exams in 2002. This minimum is being applied for all the PSSA scales. It will affect very few students, but several schools felt they were being penalized by the presence of some special needs students who took the regular assessment but scored very low. The change was made to reduce the impact of these students on the overall school score.

The following tables show how the two types of items and the content standards are distributed across forms. Form W refers to the common sections and was the given to all students. Forms A through L for reading and mathematics are the matrix sections and each student took one of these forms in reading and one in mathematics.



Table 1.1 2002 PSSA Grade 5 Reading																		
Distribution of Items and Tasks by Content Standards																		
2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	
A	1	6		6	6	E	1	6		6	6	I	1	6		6	6	
	2	6		6	6		2	6		6	6		6	2	6		6	6
	3	6	1	7	10		3	6	1	7	10		10	3	6	1	7	10
	7	4		4	4		7	4		4	4		4	7	4		4	4
	8	4		4	4		8	4		4	4		4	8	4		4	4
B	1	6		6	6	F	1	6		6	6	J	1	6		6	6	
	2	6		6	6		2	6		6	6		6	2	6		6	6
	3	6	1	7	10		3	6	1	7	10		10	3	6	1	7	10
	7	4		4	4		7	4		4	4		4	7	4		4	4
	8	4		4	4		8	4		4	4		4	8	4		4	4
C	1	6		6	6	G	1	6		6	6	K	1	6		6	6	
	2	6		6	6		2	6		6	6		6	2	6		6	6
	3	6	1	7	10		3	6	1	7	10		10	3	6	1	7	10
	7	4		4	4		7	4		4	4		4	7	4		4	4
	8	4		4	4		8	4		4	4		4	8	4		4	4
D	1	6		6	6	H	1	6		6	6	L	1	6		6	6	
	2	6		6	6		2	6		6	6		6	2	6		6	6
	3	6	1	7	10		3	6	1	7	10		10	3	6	1	7	10
	7	4		4	4		7	4		4	4		4	7	4		4	4
	8	4		4	4		8	4		4	4		4	8	4		4	4
												W	1	12		12	12	
													2	12		12	12	
													3	12	2	14	20	
													7	8		8	8	
													8	8		8	8	

Table 1.2 2002 Grade 8 Reading																		
Distribution of Items and Tasks by Content Standards																		
2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	
A	1	8		8	8	E	1	9		9	9	I	1	7		7	7	
	2	8		8	8		2	9		9	9		9	2	7		7	7
	3	9	1	10	13		3	8	1	9	12		13	3	9	1	10	13
	7	4		4	4		7	4		4	4		4	7	6		6	6
	8	7		7	7		8	6		6	6		6	8	7		7	7
B	1	9		9	9	F	1	8		8	8	J	1	11		11	11	
	2	8		8	8		2	8		8	8		8	2	8		8	8
	3	8	1	9	12		3	8	1	9	12		12	3	8	1	9	12
	7	4		4	4		7	5		5	5		5	7	3		3	3
	8	7		7	7		8	7		7	7		7	8	6		6	6
C	1	9		9	9	G	1	7		7	7	K	1	10		10	10	
	2	9		9	9		2	8		8	8		8	2	9		9	9
	3	9	1	10	13		3	10	1	11	14		14	3	7	1	8	11
	7	2		2	2		7	4		4	4		4	7	4		4	4
	8	7		7	7		8	7		7	7		7	8	6		6	6
D	1	9		9	9	H	1	7		7	7	L	1	10		10	10	
	2	9		9	9		2	9		9	9		9	2	8		8	8
	3	8	1	9	12		3	9	1	10	13		13	3	7	1	8	11
	7	4		4	4		7	5		5	5		5	7	5		5	5
	8	6		6	6		8	6		6	6		6	8	6		6	6
												W	1	16		16	16	
													2	16		16	16	
													3	16	2	18	24	
													7	12		12	12	
													8	12		12	12	

**Table 1.3 2002 Grade 11 Reading  
 Distribution of Items and Tasks by Content Standards**

2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points
A	1	8		8	8	E	1	8		8	8	I	1	8		8	8
	2	8		8	8		2	8		8	8		2	8		8	8
	3	8	1	9	12		3	8	1	9	12		3	8	1	9	12
	7	8		8	8		7	8		8	8		7	8		8	8
	8	8		8	8	8	8		8	8	8	8	8	8		8	8
B	1	8		8	8	F	1	8		8	8	J	1	8		8	8
	2	8		8	8		2	8		8	8		2	8		8	8
	3	8	1	9	12		3	8	1	9	12		3	8	1	9	12
	7	8		8	8		7	8		8	8		7	8		8	8
	8	8		8	8	8	8		8	8	8	8	8		8	8	
C	1	8		8	8	G	1	8		8	8	K	1	8		8	8
	2	8		8	8		2	8		8	8		2	8		8	8
	3	8	1	9	12		3	8	1	9	12		3	8	1	9	12
	7	8		8	8		7	8		8	8		7	8		8	8
	8	8		8	8	8	8		8	8	8	8		8	8		
D	1	8		8	8	H	1	8		8	8	L	1	8		8	8
	2	8		8	8		2	8		8	8		2	8		8	8
	3	8	1	9	12		3	8	1	9	12		3	8	1	9	12
	7	8		8	8		7	8		8	8		7	8		8	8
	8	8		8	8	8	8		8	8	8	8		8	8		
												W	1	18		18	18
													2	16		16	16
													3	18	2	20	26
													7	12		12	12
													8	16		16	16

Table 1.4 2002 PSSA Grade 5 Mathematics Distribution of Items and Tasks by Content Standards																			
2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points		
A	1	3		3	3	E	1	3		3	3	I	1	3		3	3		
	2	3		3	3		2	2		2	2		2	2	2	3		3	3
	3	1		1	1		3	1	1	2	5		5	3	1		1	1	1
	4	1		1	1		4	1		1	1		1	4	0	1	1	4	4
	6	2		2	2		6	2		2	2		2	6	1		1	1	1
	7	0	1	1	4		7	1		1	1		1	7	1		1	1	1
	8	1		1	1		8	1		1	1		1	8	1		1	1	1
	9	2		2	2		9	2		2	2		2	9	2		2	2	2
	10	1		1	1		10	1		1	1		1	10	2		2	2	2
	11	1		1	1		11	1		1	1		1	11	1		1	1	1
	B	1	3		3		3	F	1	3			3	3	J	1	3		3
2		3	1	4	7	2	2		1	3	6	6	2	3			3	3	3
3		1		1	1	3	2			2	2	2	3	1			1	1	1
4		1		1	1	4	1			1	1	1	4	1			1	1	1
6		2		2	2	6	1			1	1	1	6	1		1	2	5	5
7		0		0	0	7	1			1	1	1	7	1			1	1	1
8		2		2	2	8	1			1	1	1	8	1			1	1	1
9		1		1	1	9	2			2	2	2	9	2			2	2	2
10		1		1	1	10	1			1	1	1	10	1			1	1	1
11		1		1	1	11	1			1	1	1	11	1			1	1	1
C		1	3		3	3	G		1	3		3	3	K		1	3		3
	2	3		3	3	2		2		2	2	2	2		3		3	3	3
	3	1		1	1	3		1	1	2	5	5	3		1		1	1	1
	4	1		1	1	4		1		1	1	1	4		1		1	1	1
	6	2		2	2	6		1		1	1	1	6		2		2	2	2
	7	0		0	0	7		1		1	1	1	7		1		1	1	1
	8	1		1	1	8		2		2	2	2	8		1		1	1	1
	9	2		2	2	9		2		2	2	2	9		2	1	3	6	6
	10	1		1	1	10		1		1	1	1	10		1		1	1	1
	11	1	1	2	5	11		1		1	1	1	11		0		0	0	0
	D	1	3		3	3		H	1	5		5	5		L	1	3	1	4
2		3		3	3	2	2		1	3	6	6	2	3			3	3	3
3		1	1	2	5	3	0			0	0	0	3	2			2	2	2
4		0		0	0	4	0			0	0	0	4	1			1	1	1
6		2		2	2	6	1			1	1	1	6	1			1	1	1
7		1		1	1	7	1			1	1	1	7	1			1	1	1
8		1		1	1	8	2			2	2	2	8	1			1	1	1
9		2		2	2	9	2			2	2	2	9	2			2	2	2
10		1		1	1	10	2			2	2	2	10	0			0	0	0
11		1		1	1	11	0			0	0	0	11	0			0	0	0
												W	1	9		1	10	13	
													2	15		15	15		
													3	9		9	9		
													4	5		5	5		
													6	5	1	6	9		
													7	5		5	5		
													8	7		7	7		
													9	5	1	6	9		
													10	5		5	5		
													11	5		5	5		

Table 1.5 2002 Grade 8 Mathematics Distribution of Items and Tasks by Content Standards																			
2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points		
A	1	2		2	2	E	1	2		2	2	I	1	3		3	3		
	2	1	1	2	5		2	2		2	2		2	2	2	2		2	2
	3	3		3	3		3	2		2	2		2	3	2	1		3	6
	4	1		1	1		4	1		1	1		1	4	1			1	1
	6	1		1	1		6	1		1	1		1	6	1			1	1
	7	1		1	1		7	1		1	1		1	7	1			1	1
	8	3		3	3		8	3	1	4	7		7	8	3			3	3
	9	1		1	1		9	1		1	1		1	9	0			0	0
	10	1		1	1		10	1		1	1		1	10	1			1	1
	11	1		1	1		11	1		1	1		1	11	1			1	1
	B	1	2		2		2	F	1	1			1	1	J	1	2	1	3
2		2		2	2	2	3		1	4	7	2	2				2	2	
3		1		1	1	3	2			2	2	3	1				1	1	
4		1		1	1	4	1			1	1	4	1				1	1	
6		1		1	1	6	1			1	1	6	1				1	1	
7		1		1	1	7	1			1	1	7	1				1	1	
8		3		3	3	8	3			3	3	8	3				3	3	
9		1		1	1	9	1			1	1	9	2				2	2	
10		1	1	2	5	10	1			1	1	10	1				1	1	
11		2		2	2	11	1			1	1	11	1				1	1	
C		1	2		2	2	G		1	2		2	2	K		1	2		2
	2	2		2	2	2		1	1	2	5	2	1				1	1	
	3	3		3	3	3		3		3	3	3	3		1		4	7	
	4	1		1	1	4		1		1	1	4	1				1	1	
	6	0		0	0	6		2		2	2	6	1				1	1	
	7	1		1	1	7		2		2	2	7	1				1	1	
	8	3		3	3	8		0		0	0	8	3				3	3	
	9	2	1	3	6	9		1		1	1	9	1				1	1	
	10	1		1	1	10		1		1	1	10	1				1	1	
	11	0		0	0	11		2		2	2	11	1				1	1	
	D	1	3		3	3		H	1	0		0	0		L	1	1		1
2		2		2	2	2	4			4	4	2	1	1			2	5	
3		2		2	2	3	2			2	2	3	2				2	2	
4		1		1	1	4	1			1	1	4	1				1	1	
6		1		1	1	6	0		1	1	4	6	1				1	1	
7		1	1	2	5	7	1			1	1	7	1				1	1	
8		3		3	3	8	5			5	5	8	4				4	4	
9		0		0	0	9	1			1	1	9	1				1	1	
10		1		1	1	10	1			1	1	10	2				2	2	
11		1		1	1	11	0			0	0	11	1				1	1	
												W	1	7			7	7	
													2	10		10	10		
													3	7	1	8	11		
													4	4		4	4		
													6	6		6	6		
													7	4	1	5	8		
													8	15	1	16	19		
													9	9		9	9		
													10	4		4	4		
													11	4		4	4		

Table 1.6 2002 Grade 11 Mathematics Distribution of Items and Tasks by Content Standards																	
2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points	2002 Form	Standard	MCQ	Open Ended	Total Tasks	Total Points
A	1	1		1	1	E	1	1		1	1	I	1	1		1	1
	2	2		2	2		2	2		2	2		2	1	1	2	5
	3	2		2	2		3	1		1	1		3	2		2	2
	4	1		1	1		4	1	1	2	5		4	1		1	1
	6	1	1	2	5		6	2		2	2		6	1		1	1
	7	1		1	1		7	1		1	1		7	1		1	1
	8	3		3	3		8	3		3	3		8	4		4	4
	9	2		2	2		9	2		2	2		9	2		2	2
	10	1		1	1		10	1		1	1		10	0		0	0
	11	1		1	1		11	1		1	1		11	2		2	2
	B	1	1		1		1	F	1	1			1	1	J	1	2
2		1		1	1	2	2			2	2	2	3			3	3
3		1	1	2	5	3	1			1	1	3	2			2	2
4		1		1	1	4	1		1	2	5	4	0			0	0
6		2		2	2	6	1			1	1	6	3			3	3
7		1		1	1	7	1			1	1	7	1			1	1
8		5		5	5	8	4			4	4	8	2	1		3	6
9		2		2	2	9	2			2	2	9	1			1	1
10		1		1	1	10	1			1	1	10	1			1	1
11		0		0	0	11	1			1	1	11	0			0	0
C		1	1		1	1	G		1	1		1	1	K		1	1
	2	3		3	3	2		1		1	1	2	2			2	2
	3	2		2	2	3		2		2	2	3	2			2	2
	4	0		0	0	4		1		1	1	4	0			0	0
	6	2		2	2	6		3		3	3	6	1			1	1
	7	0		0	0	7		2		2	2	7	2			2	2
	8	4		4	4	8		4		4	4	8	4			4	4
	9	2		2	2	9		1	1	2	5	9	1		1	2	5
	10	1		1	1	10		0		0	0	10	1			1	1
	11	0	1	1	4	11		0		0	0	11	1			1	1
	D	1	1		1	1		H	1	1		1	1		L	1	1
2		1		1	1	2	2			2	2	2	1			1	1
3		2		2	2	3	1			1	1	3	2			2	2
4		1	1	2	5	4	1			1	1	4	1			1	1
6		2		2	2	6	1		1	2	5	6	1			1	1
7		1		1	1	7	1			1	1	7	2			2	2
8		4		4	4	8	3			3	3	8	3			3	3
9		2		2	2	9	2			2	2	9	2	1		3	6
10		1		1	1	10	1			1	1	10	1			1	1
11		0		0	0	11	2			2	2	11	1			1	1
												W	1	5			5
													2	10		10	10
													3	5	1	6	9
													4	5		5	5
													6	10		10	10
													7	5		5	5
													8	14	1	15	18
													9	6	1	7	10
													10	5		5	5
													11	5		5	5

## Chapter 2: Form Analysis and Item Calibration

### TEST FORM STATISTICS

The table below contains an overview of the form-level data. Test length (L), mean percent correct (P), typical test-retest reliability (R) and typical standard error of measurement (SE) are shown for each form by grade and content area. These statistics are based on the total test using both multiple-choice and open-ended tasks and both common and matrix sections for each form. The test lengths pertain to the data used for school-level estimates and not for student-level results.

The test-retest reliability can be thought of as the correlation between scores if the students could be tested twice with the same instrument without the second testing being affected by the first. It is computed as the ratio of the variance associated with true scores divided by the total variance. The total variance contains a component due to the variance in true scores and a component due to the imperfections in the measurement process.

The *standard error of measurement* is another indicator of precision. If everyone being tested had the same *true score*<sup>1</sup>, there would still be some variation in observed scores due to imperfections in the measurement process. These may be random differences in attention during instruction or concentration during testing. Or perhaps differences could arise because of problems with the wording of the items or layout of the answer sheet. The standard error is the *standard deviation*<sup>2</sup> of the distribution of observed scores for students with identical true scores.

Both reliability and the standard error increase with test length; although, it is not the sole determinant in either case. Comparing the information in Tables 2.1 and 2.2 should give some insight into the complexities and tendencies of these statistics.

**Table 2.1: 2002 Summary Matrix Form Performances**

Grade	Mathematics				Reading			
	L	P	R	SE	L	P	R	SE
05	105	64	.93	5.0	86-90	67	.92	4.0
08	105	60	.94	5.4	119-120	64	.94	4.9
11	105	55	.93	5.2	132	64	.94	5.2

The Student-Level Scaled Scores were estimated using the common items only. This resulted in shorter test lengths and, therefore, slightly lower form reliabilities. The following table pertains to the common-item measures.

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<sup>1</sup> True score is the score the person deserves and would actually receive if the measurement process were perfect.

<sup>2</sup> The standard deviation of a distribution is a measure of the dispersion of the observations. For the normal distribution about 16% of the observations are more than one standard deviation above the mean and the same percentage are more than one standard deviation below the mean. To illustrate, using the data in table 2.1, about 68% of students with true scores of 70 will have observed scores between 65 and 75.

**Table 2.2: 2002 Summary of Common Item Performances**

Grade	Mathematics				Reading			
	L	P	R	SE	L	P	R	SE
05	85	65	.92	4.5	60	68	.88	3.3
08	85	61	.92	4.8	80	64	.90	4.0
11	85	55	.92	4.7	88	65	.91	4.2

Appendix A presents detailed descriptions of the performance of each form by grade and content area.

The standard deviation shown in the table is the standard deviation of observed scores. Assuming normally distributed scores, one would expect about two-thirds of the observations to be within one standard deviation of the mean. An estimate of the standard deviation of the true scores can be computed as the  $\sqrt{(SD*SD) - (SE*SE)}$ . For grade 5 mathematics, this would be  $\sqrt{(15.5*15.5)-(4.5*4.5)} = 14.8$ .

The reliability can also be computed from these data. Again for grade 5 mathematics common,  $R = \frac{(15.5*15.5)-(4.5*4.5)}{(15.5*15.5)} = 0.92$ .

### TRADITIONAL ITEM STATISTICS

Although all items had been reviewed several times, a thorough item analysis was conducted to ensure that the items and forms performed as expected. With any psychometric model, an item analysis is a search for unexpected results. In general, *more able*<sup>3</sup> students are expected to pass easy items and *less able* students are expected to fail difficult items. If either of these situations does not occur, the item should be reviewed once more to determine the nature of the problem and the characteristics of the students affected.

The most familiar indices of item performance are *proportion correct* (p-value) and item reliability. Reliability for dichotomous items is typically represented by the *point biserial correlation* coefficient. This statistic will be positive if the total test mean score is higher for the students who respond correctly to the item than for the students who respond incorrectly. Hence, the correlation will be low if there is a *more able* way to fail the item or a *less able* way to pass it.

The p-value is a subtler indicator of item quality, but the value should be appropriate for the item. If there is a *more able* way to miss an item, the item will appear more difficult than the underlying problem. Conversely, if there is a *less able* way to pass the item, it may appear surprisingly easy.

Table 2.3 gives the mean p-value and point biserial correlation (PtBis) for the multiple-choice items in each grade and content area as a frame of reference of evaluating items.

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<sup>3</sup> Following the Rasch literature, *ability* is used in this discussion as a generic term for the construct that is being measured by the exam. *Competence, achievement, learning* and *status* are among the alternatives that are sometimes used, but are all subject to some degree of misinterpretation.

The p-value is the proportion of the students who responded correctly to an item. The point biserial correlation is the correlation between the student's score on the item (zero or one) and the score on the total test. This can be computed as the familiar Pearson product-moment correlation, but because the item score is a dichotomous variable, the formula can be written in a simpler form.

The point biserial correlation is also called the item reliability. The correlation will have a positive value when the mean score of the students answering correctly is higher than the mean score of the students answering incorrectly. This is a very reasonable requirement since it indicates that students who did well on the total test tended to do well on this item. The index will take its maximum theoretical value of 1.0 if *every* student who answered the item correctly scored better on the test than *any* student who answered incorrectly<sup>4</sup>.

In general, with the mean p-values in the low 0.6 range, the PSSA was quite challenging to most students. With the average point biserial correlations near 0.4, the overall item quality was quite good.

Grade	Mathematics		Reading	
	P-value	PtBis	P-value	PtBis
<b>05</b>	.67	.43	.69	.42
<b>08</b>	.62	.46	.66	.41
<b>11</b>	.60	.41	.63	.41

The item level analyses done for the PSSA also included the percent of students selecting each incorrect response (foil) and the correlation between selecting a response and total test score. This information is useful in helping item writers and editors understand the item's behavior. The percent selecting each response is an indicator of which foils are particularly attractive.

The correlations by response are a further refinement on this idea. They indicate which responses are attractive to high scoring students and which to low scoring students. The ideal pattern would be a *strong* positive correlation for the correct response and *strong* negative correlations for the incorrect responses. This pattern would indicate that the incorrect responses tend to attract students who tended to do less well on the total test. Consequently, one could conclude that the item is measuring the same construct as is the test as a whole.

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<sup>4</sup> It is legitimate to view the point biserial correlations as standardized means. A positive value means students who chose that response had a higher mean score than the average student; a negative value means students who chose that response had a lower than average mean score.



### RASCH ITEM STATISTICS AND EQUATING

Software implementing the Rasch model was used to obtain estimates of logit difficulties for both dichotomously- and polychotomously-scored items. The parameters estimated for polychotomous items are the *step difficulties* associated with the Masters Partial Credit model. This software has been adapted to handle all the item types currently in use with the PSSA.

Rather than percent correct, the Rasch model expresses item difficulty (and student ability) in units typically referred to as *logits*. In the simplest case, a logit is a transformed p-value with the average p-value becoming a logit of zero. In this form, logits resemble z-scores or standard normal deviates; a very difficult item might have a logit of +4 and a very easy item might have a logit of -4. They actually have no formal relationship to the normal distribution.

The logit metric has several mathematical advantages over p-values. It is an interval scale meaning two items with logits of zero and one are the same distance apart as items with logits of +3 and +4. Logits are not dependent on the ability level of the students. A specific form will have a mean logit of zero, whether the average p-value of the sample is 0.8 or 0.3.

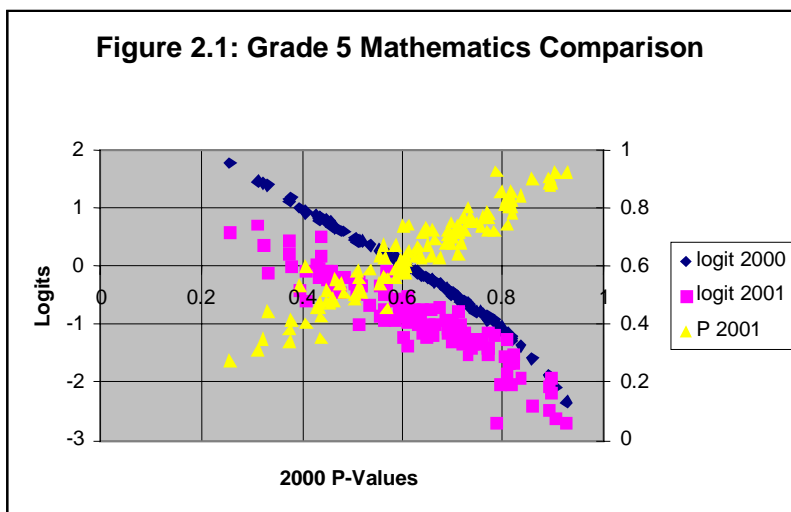
The standard Rasch calibration procedure arbitrarily sets the mean difficulty of the items on any form at zero. Any item with a p-value lower than the average item on the form receives a positive logit difficulty and any item with a p-value higher than the average receives a negative logit. Consequently, the logits for any calibration, whether it is a third grade reading test or a high school science test, relate to an arbitrary origin defined by the center of items on that form. The average third grade reading item will have a logit of zero; the average high school science item will have a logit of zero. This applies to logits for both item difficulties and student abilities.

There are any number of other arbitrary choices that could be made for centering the item difficulties. Rather than using all the items, the origin could be defined by a subset. For the PSSA, all test forms in a particular grade and content area share a common block of items. The items on all forms can then be easily adjusted to a single (but still arbitrary) origin by defining the origin as the mean of the **common** items. With this done, the origins for all twelve forms will be statistically equal. Items on forms A and L that are equally difficult should now have equal logit difficulties.

Since the test forms were spiraled within classrooms, there are some cross checks that are made to ensure the calibrations and links are reasonable. First, because of the spiraling, each form will be administered to a *statistically equivalent* sample of students. Any differences in performance observed among the groups should be due only to differences in form difficulty. After linking, the mean and standard deviation of the logit abilities should be statistically equal for each sample of students.

Second, because of the equivalent samples, the common items should have the same p-values regardless of which form and sample is being considered. Finally, for all items, both common and matrix, a plot of the relationship between the p-value and the logit should fall along a single, curved line.

The curve using the diamond plotting symbol for Logit 2000 in Figure 2.1 below for Grade 5 Mathematics illustrates a situation in which these conditions were met quite well. This curve shows the transformation from p-values (x-axis) to logits (y-axis) for the year 2000. The curve is nearly linear in the center but curves towards asymptotes of zero (on the left) and one (on the right).



In theory, with the Rasch model, linking the exam for the current year to the exam for previous years is just as straightforward as linking forms within year. However, the student samples can not be assumed equivalent across years and identical items can have different properties in different years because of changes in the item's context or changes in the students' experiences. Consequently, between-year linking is somewhat less certain than within-year linking.

The link between years must be from items that are used in both years in approximately the same context. The *same context* in this situation means the items are not altered in any way, they appear in about the same position in the booklet, and they are administered at about the same time of day. PDE provides a code for each item as part of the answer key file that indicates the item's appropriateness for linking. Codes between 1 and 6 represent the gradation of the item's suitability. A code of '1' means the item text is identical and its sequence number has not changed by more than 2 or 3. A code of '5' means the item has been significantly revised. A code of '6' indicates a completely new item.

For *within-year* linking, the procedure is to link forms through the common section. The result is a bank of items with comparable logit difficulties. For *between-year* linking, the procedure is to link the current year's bank to the previous years' banks. Theoretically, the process is identical to within-year.

- (1) Overlapping items are identified.
- (2) Adjusting the logit difficulties (of all items) in the current year's bank so that the mean logit difficulty for the overlapping items is equal to the mean logit difficulty for the same items in the previous year's bank.

- (3) Assess the validity of the link by identifying any items that do not maintain their relative position across years.

Plotting p-values against logit difficulties across year is not as reliable as it is within year, but it is still informative. Within year, a given p-value will translate to a given logit regardless of the form it is used on, within the limits of statistical precision. Within year, the p-value-to-logit plot should be a single curved line; between years, the plot could have separate lines for each year. The difference between the two lines is a reflection of the adjustment (positive or negative) that is required to equate the two item banks. This is the situation shown in Figure 2.1 with the curves using the square and the triangle plotting symbols.

The plot of the p-values for overlapping items from the two years can also be informative. If the p-values for the current year are systematically higher than for the same items last year, the scale scores should also show a systematic improvement after the two item banks have been properly linked. This is shown in Figure 2.1 with the diamond-plotting symbol.

There are some checks on the reasonableness of the linking process that can be performed. Item calibration should be invariant across years, except for an arbitrary location constant. When the logit difficulties of the overlapping items for the current year are plotted against their logit difficulties for a previous year, the result should be a straight line, whose width reflects the standard errors of estimation for the item difficulties. Identifying any outliers and recomputing the adjustment based on an edited set of overlapping items should improve the link.

**Figure 2.2: Grade 5 Mathematics 2001 Link to 2000**

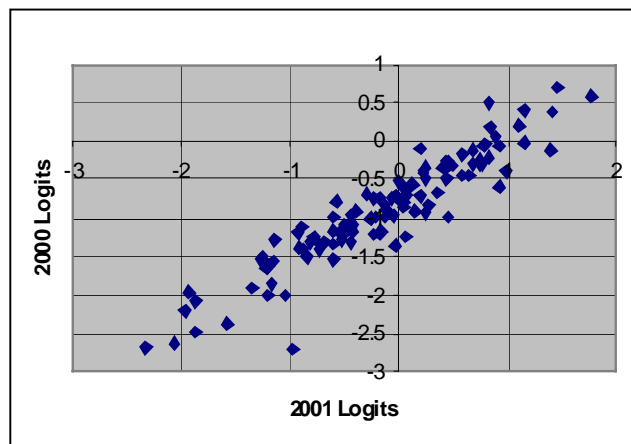


Figure 2.2 above uses the same data as Figure 2.1, but focuses entirely on logit difficulties. It shows more clearly the relationship between 2000 logits and 2001 logits. There is a well-defined line with a few outliers. From the intercepts which are (0, -0.5) and (0.5, 0) approximately, it can be seen that the required translation constant is slightly less than 0.5 logits. Subtracting 0.5 from the 2001 logits (or adding 0.5 to 2000 logits) would shift the line to pass through the origin.

**2002 PSSA OMITTED ITEMS**

Numerous items from Grades 5 and 8 were omitted from scoring due to poor statistical performance. Items with low p-values or negative point biserial correlations indicate that another answer option is a plausible alternative to the correct answer option. The following matrix items were flagged during item analysis and were omitted from final scoring. All omitted items from the 2002 PSSA were matrix reading items from Grades 5 and 8.

<b>Table 2.4 PSSA 2002 Omitted Reading Items</b>			
<b>Grade 5</b>		<b>Grade 8</b>	
A102	G95	A110	H110
B106	G97	A121	I128
C84	G109	C125	L108
C96	H89	D115	L128
D93	H106	D126	
D107	I94	E103	
E89	L94	F119	
E107	L102	J101	
F93	K102	K107	
G89	K108	L97	

## Chapter 3: Linking and Equating

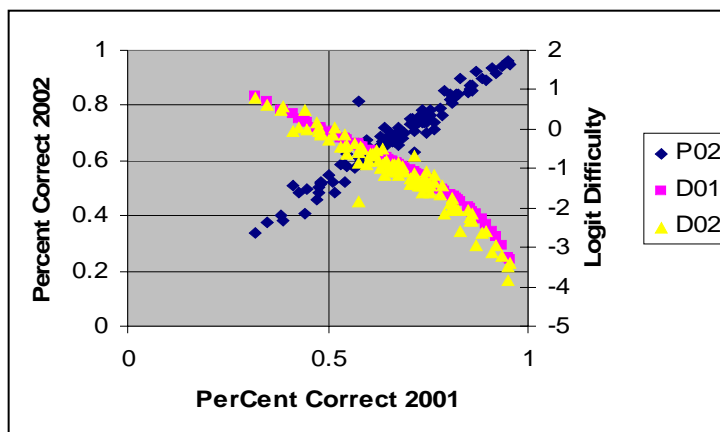
### GRADE 5: MATHEMATICS

The traditional item statistics, percent correct and point biserial correlations displayed typical and reasonable distributions for Grade 5 mathematics. These statistics were computed for each test form. The points near percent correct of 0.85 and correlation of 0.17 illustrate this.

The percent correct scores range from about 0.25 to about 0.96 with the majority of the items in the range 0.5 to 0.82. Most of the item reliabilities are between 0.3 and 0.5 with only two items below 0.2, both of which are matrix items. It might also be useful to investigate the items with reliabilities near 0.6. They may be exemplars for what items should be, or they might be tapping some extracurricular experience primarily available to the better math students.

Figure 3.1 contains several pieces of information for the items that were used to link the 2002 exam to the 2001 exam. The diagonal line, rising from left to right, shows the item p-values in the two years. One would expect the relationship to form a straight line with slope one. The extent to which the line does not pass through the origin indicates a change in student performance. For Grade 5 mathematics, there is little change in the percent correct difficulties.

**Figure 3.1: Grade Five Mathematics**



The two lines sloping downward toward the right relate item logit difficulties for the two years to the 2001 p-values. They show the curvilinear relationship required by the model with low p-values being translated into high logit difficulties and high p-values into low difficulties. The smoothness of this line indicates good agreement among the twelve forms. Because the twelve forms were spiraled within classroom, the samples generated are randomly equivalent and one would expect the same p-value to translate into the same logit. This is the case with these data.

### GRADE 5: READING

The traditional item statistics, percent correct and point biserial correlations, displayed typical and reasonable distributions for Grade 5 reading. These statistics were computed

for each test form so clusters of points represent a single common item that occurred on all twelve forms.

The percent correct scores range from about 0.3 to about 0.9, but the majority of the item difficulties are greater than 0.5. Most of the item reliabilities are between 0.3 and 0.6 with only a few items below 0.2. It might also be useful to investigate the items with reliability near 0.6. They may be exemplars for what items should be or they might be tapping some extracurricular experience primarily available to the better students. There is also a consistent pattern of the lowest reliabilities being associated with the lowest p-values. Most, but not all, items in this region are matrix items. These items are too difficult for these students to contribute to the measurement.

**Figure 3.2: Grade Five Reading**

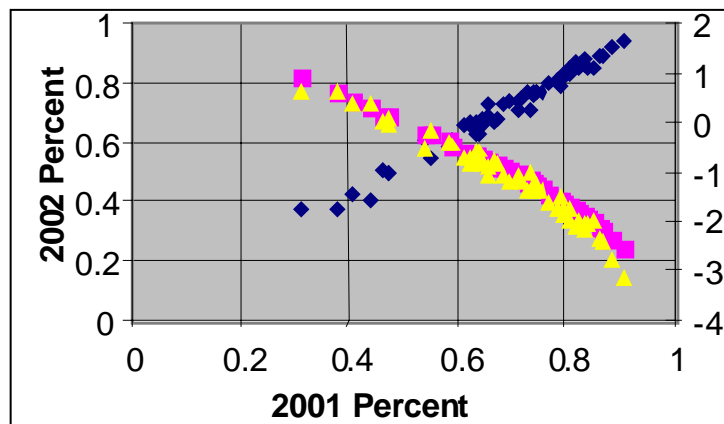


Figure 3.2 contains several pieces of information for the items that were used to link the 2002 exam to the 2001 exam. The diagonal line, rising from left to right, shows the item p-values in the two years. One would expect the relationship to form a straight line with slope one. The extent to which the line does not pass through the origin indicates a change in student performance. For Grade 5 reading, there is little change in the percent correct difficulties.

The two lines sloping downward toward the right relate item logit difficulties for the two years to the 2001 p-values. They show the curvilinear relationship required by the model with low p-values being translated into high logit difficulties and high p-values into low difficulties. The smoothness of this line indicates good agreement among the twelve forms. Because the twelve forms were spiraled within classroom, the samples generated are randomly equivalent and one would expect the same p-value to translate into the same logit. This is the case with these data.

### **GRADES 8 AND 11**

Across-year linking analyses were performed for Grades 8 and 11 in the same manner as for Grade 5. The results were similar to Grade 5 in the amount of noise present in the links. These studies are documented in separate link analyses in files maintained by DRC.

## Chapter 4: Item Bias Review

Test item bias can present itself in a variety of ways in items: through the language, the format, the content, or the behaviors required. It can result from membership in a specific subpopulation or from factors correlated to the subpopulation. It can affect all members of the subpopulation, or it may affect only those in specific ranges of ability. How bias arises and how it presents itself clearly will affect how best to detect and correct it.

### LIMITATIONS OF STATISTICAL DETECTION

No statistical procedure should be used as a substitute for rigorous, hands-on reviews by content and bias specialists. The statistical results can help to organize the review so the effort is concentrated on the most problematic cases; however, no items should be automatically rejected simply because some statistical method flagged them or accepted because they were not flagged.

Statistical detection of item bias is at best an inexact science. There has been a variety of methods proposed for detecting bias, but no one statistic to date can be considered either necessary or sufficient. Different methods are more or less successful depending on the situation and circumstances. No analysis can guarantee that a test is free of bias and almost any thoughtful analysis will uncover the most flagrant problems.

A fundamental shortcoming of all of the statistical methods is that all are intrinsic to the test being evaluated. If a test, overall, is unbiased but with one or two biased items, most methods will locate the problems. If, however, the test itself is biased against one or more subpopulations, a statistical analysis of the items will not be able to separate bias effects from true differences in achievement.

### MANTEL-HAENSZEL PROCEDURE FOR DIFFERENTIAL ITEM FUNCTIONING

The *Mantel-Haenszel* procedure for detecting differential item functioning is the most commonly used technique in educational testing. It does not depend on the application or the fit of any specific measurement model. It does have some philosophical overlap with the Rasch model since it uses total score to organize the analysis.

*Differential item functioning* is present when examinees of equal ability do not have the same chance of passing the item. If this inequity is associated with gender or ethnic groups, the item could be described as biased. The Mantel-Haenszel procedure looks for items that meet this idea of differential functioning.

The procedure as implemented by DRC contrasts a focal group with a reference group. While it makes no practical difference in the analysis which group is defined as the focal group, the protected class or the group most apt to be disadvantaged by a biased measurement is typically defined as the focal group. The Mantel-Haenszel statistic (MH) for each item is computed from a two-by-two-by-eight contingency table. It has two groups (focal and reference), two outcomes (right or wrong) and eight ability groupings. The ability groups are defined by the octiles of the score distribution for the total examinee populations.

The basic MH statistic is a single degree of freedom chi-square that compares the observed number in each cell to the expected number. The expected counts are computed to ensure that the analysis is not confounded with differences in the achievement level of the two groups.

For constructed response items, a comparable statistic is computed based on the standardized mean difference computed as the differences in mean scores for the focal and reference groups, if both groups had the same score distribution.

To assist the review committees in interpreting the analyses, the items are assigned a severity code based on the magnitude of the MH statistic. Items classified as A+ or A- have no statistical indication of differential item functioning. Items classified as B+ or B- have some indication and may not require revision. Items classified as C+ or C- have strong evidence of a problem and should be reviewed and revised if they are to be used again. The plus sign indicates the item favors the focal group and a minus sign indicates the item disfavors the focal group.

Displays such as the following are produced for all items given the C classification and are shown in Appendices S and V. This display identifies the item by form and sequence number and provides all the descriptive statistics. For each score grouping, the display gives the number in each group and the percentage of the group who answered the item correctly. For example, for the item shown, there were 901 students from the focal group in the lowest group and 45% of them answered the item correctly.

Selected	Response	Form	Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
		X	135	2	1	8	447.43	55.93	2.13	-1.8	C-
0	1	2	3	4	5	6	7	8	9	0	
FOCAL											-REFERENCE-
										*)	761
										*)	870
										*)	814
										*)	920
										*)	882
										*)	923
										*)	896
										*)	787
0	1	2	3	4	5	6	7	8	9	0	Right Total
Right Total											Right Total

The following tables provide counts of the number of items from each grade and content area that were assigned to each severity code. Overall, there were relatively few items that showed strong evidence of differential item functioning. In most cases, these were matrix items and the majority of the problems were associated with ethnic groups.



**Table 4.1: 2002 Counts of Item Severity Codes by Grade for Mathematics**

Form	Code	Grade			Total
		5	8	11	
A	A-	8	4	10	22
	A+	7	10	5	22
B	A-	7	7	7	21
	A+	8	7	8	23
C	A-	5	6	5	16
	A+	10	9	8	27
	B+			1	1
	C-			1	1
D	A-	7	8	6	21
	A+	8	6	8	22
	B-			1	1
	B+		1		1
E	A-	6	8	3	17
	A+	9	7	8	24
	B-			4	4
F	A-	7	8	8	23
	A+	8	5	6	19
	B-			1	1
	B+		2		2
G	A-	9	5	7	21
	A+	5	8	7	20
	B-			1	1
	B+	1			1
H	A-	7	5	6	18
	A+	7	10	9	26
	B+	1			1
I	A-	9	8	7	24
	A+	4	7	8	19
	B-	1			1
	B+	1			1
J	A-	6	4	4	14
	A+	8	11	8	27
	B-			1	1
	B+	1			1
K	A-	6	8	4	18
	A+	9	7	8	24
	B-			3	3
L	A-	8	9	6	23
	A+	6	6	6	18
	B-			1	1
	B+	1			1

**Table 4.2: 2002 Counts of Item Severity Codes by Grade for Reading**

Form	Code	Grade			Total
		5	8	11	
A	A-	12	19	19	50
	A+	13	14	19	46
	B-			2	2
B	A-	15	21	14	50
	A+	9	15	24	48
	B-			2	2
C	A-	17	17	19	53
	A+	7	17	20	44
	B-		1	1	2
D	A-	15	11	14	40
	A+	7	19	23	49
	B-	2		1	3
	B+		1	1	2
	C-		2	1	3
	C+		1		1
E	A-	13	17	15	45
	A+	10	18	20	48
	B-	1		2	3
	C-			1	1
F	A-	17	18	18	53
	A+	6	16	18	40
	B-			1	1
	B+	2	1	1	4
	C+			1	1
G	A-	14	12	16	42
	A+	8	23	22	53
	B-			1	1
	B+		1	1	2
H	A-	13	16	21	50
	A+	9	12	17	38
	B-	2	2	1	5
	B+		3	1	4
	C+		2		2
I	A-	14	12	22	48
	A+	11	22	16	49
	B-		1		1
	B+			1	1
	C-			1	1
J	A-	16	16	17	49
	A+	10	16	17	43
	B-		2	3	5
	B+		1	1	2
	C+			1	1
K	A-	14	18	17	49
	A+	9	14	20	43
	B-		1	2	3
	B+	1	1	1	3
L	A-	12	17	16	45
	A+	11	13	19	43
	B-			1	1
	B+	1	1	1	3
	C-			2	2
	C+		1		1

## **Chapter 5: Student and School Level Scaling**

Prior to 2000 testing, when the PSSA design was more heavily matrix sampling, estimating school-level scale scores presented some statistical and psychometric challenges. For example, the statistically efficient method to compute the school-level scale score often gave an answer different from what would be obtained by averaging student ability estimates. To avoid this source of misunderstanding, the school level scores were forced to equal the average of the appropriate students. The matrix sampling component of the design was used at the standard level to estimate relative strengths and weaknesses for the school.

In 2000, with the new reporting design, more emphasis was placed on the common sections. It became necessary to compute reliable estimates of student-level abilities, as indicated by the standard errors, at the level of the content standards. It is then possible to aggregate all scale scores to the school, district and state levels without resorting to any complex algorithms. The results should be simpler to explain and interpret.

Because the original design of the PSSA was intended to produce school-level estimates only, the reporting metric was defined at the school level. For the base year, the mean of all schools in the norming sample was set at 1300 and the standard deviation at 100. The distribution to which these apply is the content area scale score with all schools weighted equally. Consequently, the expectation now is for state-level means near 1300 and standard deviations near 100. The state mean of student level scale scores will, in general, be somewhat different. This difference occurs because the mean of the school-level scores counts schools equally, regardless of size, while the mean of the student-level scores counts students equally.

For the eleventh grade, the PSSA also requires computing school-level estimates separately for vocational/technical students and non-vocational/technical students. Because student-level scale scores are now available for every student, this step requires a different aggregation of the students, but doesn't require recomputing the student scale scores.

A minimum scale score of 700 was implemented for all PSSA reading, mathematics, and writing exams in 2002. This minimum is being applied for all the PSSA scales. It will affect very few students, but several schools felt they were being penalized by the presence of some special needs students who took the regular assessment but scored very low. The change was made to reduce the impact of these students on the overall school score.

One would not expect large changes from year to year at the state level. Any change would typically be in the same direction and proportional to changes in the p-values for the linking items. One would also expect schools that put more resources into effecting changes to show relatively more progress than those that do not. This type of information is not available in a systematic way and any evaluation of this type would depend on anecdotal information.

Table 5.1 gives the transformations that were used to convert 2002 logits into the Scaled Scores. These translation constants included the adjustments to equate 2002 to prior

years as well as the rescaling needed to convert to the (1300, 100) metric. These transformations are used for all scale score calculations.

**Table 5.1: Transformation to Scaled Scores**

Grade	Mathematics	Reading
Five	$175X + 1243$	$185X + 1202$
Eight	$160X + 1302$	$208X + 1297$
Eleven	$200X + 1268$	$400X + 1252$

**COMMON ITEMS AND MATRIX SAMPLED ITEMS**

With the new design for the 2000 PSSA, school-level scale scores are based on all items on all forms. This ensures that the scale scores used for school accountability are based on the widest possible sampling of the curriculum. Student-level scores are based on the common items only. This ensures that any decision made about students will be done in the most equitable manner.

This double system is intended to provide the best information possible for both types of decisions. The process requires computing two sets of student scores. The first set is based on the common items and is used for calculations involving the students. The second set is based on the common and matrix items and is used to aggregate up to the school, district, and state levels.

In addition to adding complexity to the processing, this approach also introduces some potential confusion. The mean of the student-level scale scores for a school will not equal the school-level scale score. While this is an obvious consequence of basing the scores on different sets of items, it is less obvious to the users of the reports.

Theoretically, it does not matter if a school is evaluated using the common items only or the common plus matrix items. Both approaches to computing the school-level scale scores should estimate the same location on the underlying construct. The correlation between the two school-level estimates is very near 1.0 for both reading and math. Correlations at the student level will be lower, closer to the range of the typical form reliabilities. While the two measures are both estimates of the same construct, they are not equally good estimates. The measure using both common and matrix items relies on more items and so it has:

- ❑ Better coverage of the curriculum, and
- ❑ Smaller standard errors of measurement.

Because the correlations between the two measures are not perfect, some schools and some students will appear to do better on one measure or the other.

**SCALED SCORES FOR CONTENT STANDARDS**

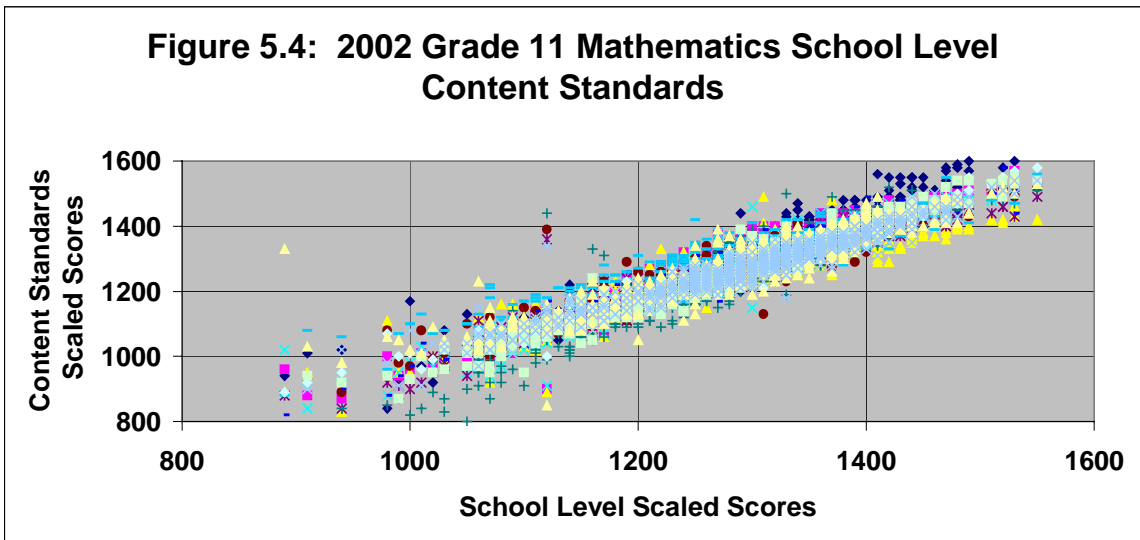
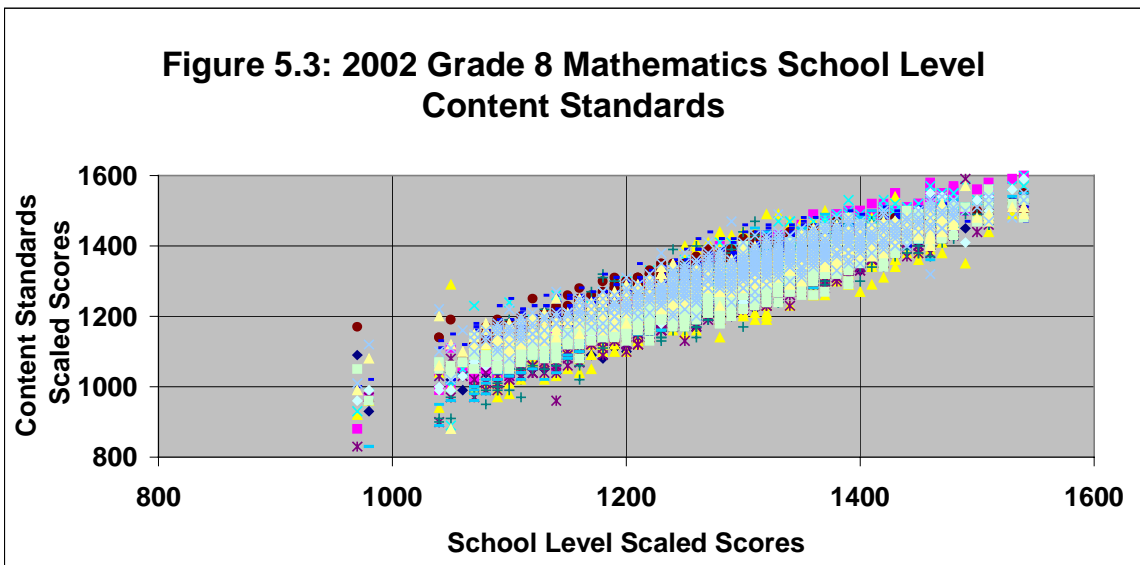
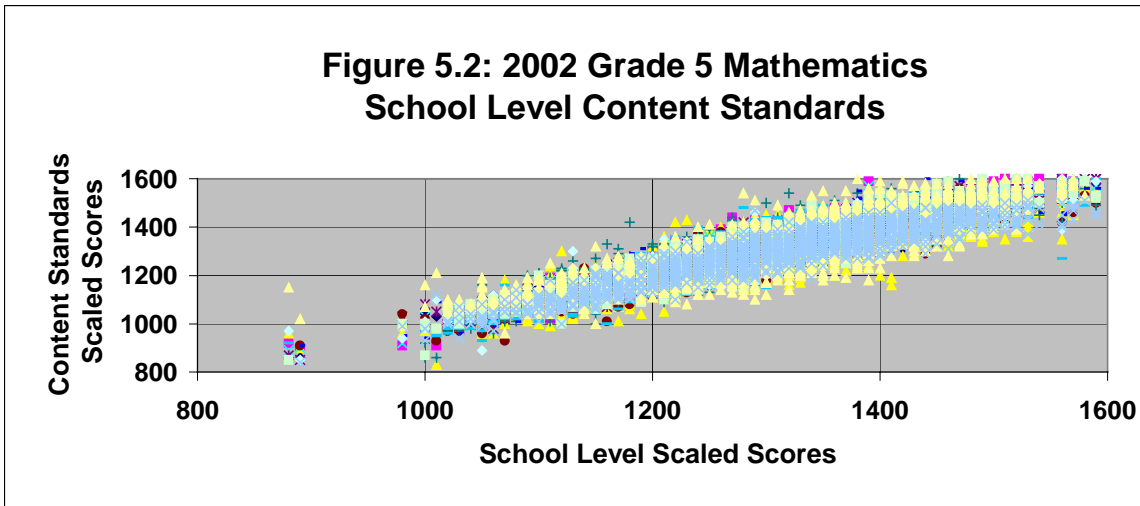
From the point of view of curriculum and instruction, content standards make eminent sense. For the point of view of test development, there is no problem writing item specifications and test items themselves that align with the content standards. For reporting to educators and parents, performance by content standard is valued and is carefully scrutinized. From the point of view of measurement, content standards are a logical problem.

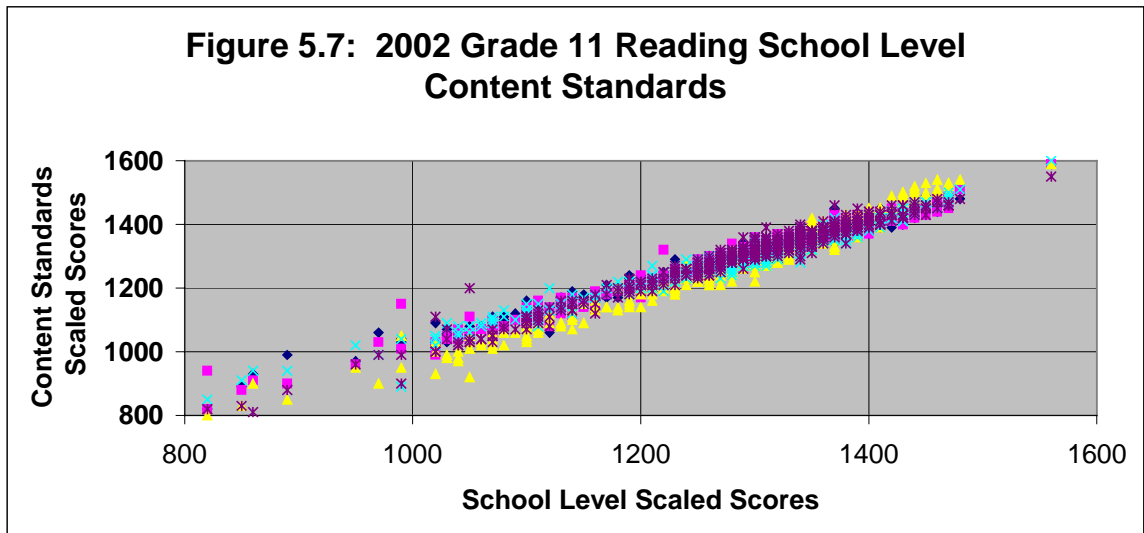
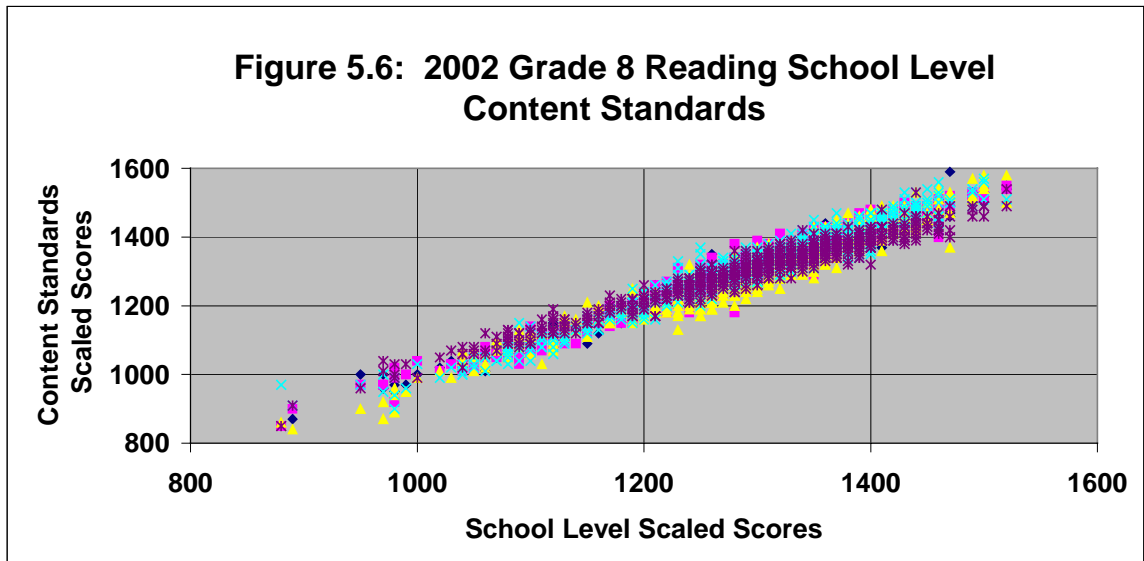
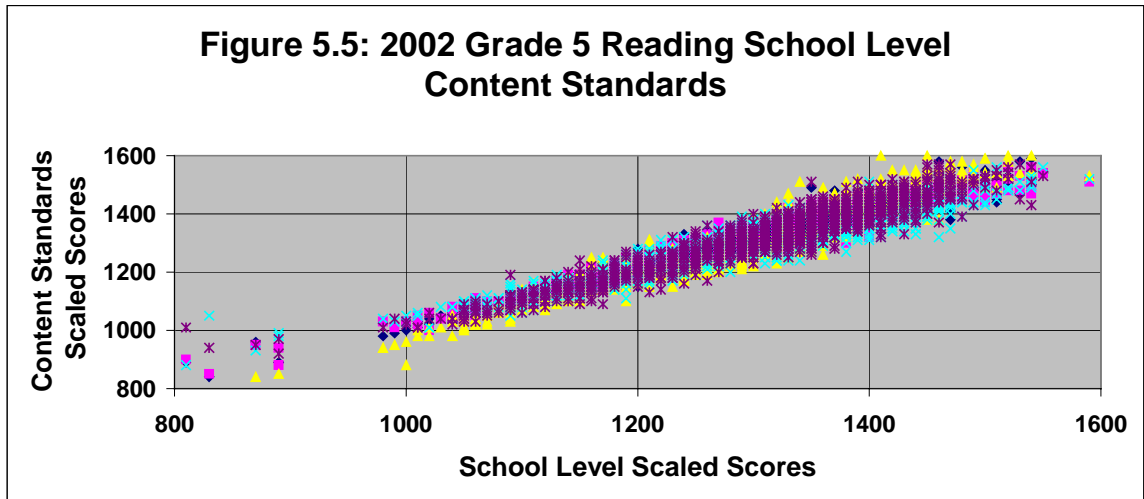
If all items on the math or the reading assessment are to be aggregated into a single measure, then all items must be measuring a single construct. This does not seem to leave room for content standards within the general content area. If the content standards are truly different, then they should not be aggregated into a single score; if they are not different, there is no point in reporting them separately.

The PSSA turns out to be typical of most assessments. Empirically, the content standards are different, but not very different. In any content area, one strong general factor contains all the content standards. It is also possible to find some schools and some students for which the content standards are distinctly different.

The plots below illustrate the strong relationship among the content standards when computed at the school level. The correlations among content standard tend to be about 0.90 across all grades and contents. Correlations at the student level would be lower.

There is a tendency for the content standard scaled scores to have slightly different slopes. This tends to be associated with the different weighting given to constructed response tasks in the different areas. In prior years, this effect was much more pronounced in Grade 11 reading which used another item type. Without the multiple response-multiple choice items, this plot is very similar to the others.





## Chapter 6:

### Interpreting Scaled Scores and Performance Levels on the PSSA

A *Scaled Score*, in the simplest sense, is a transformed number correct score<sup>1</sup>. When all students take the same items, as in the common sections of the PSSA, the more points the student earns, the higher the scaled score received will be. The value of switching to the more abstract scaled score metric is to produce a more general result.

A raw score of, say, 30 is almost meaningless unless the reader is also told how many points were possible. The same score has quite different meanings if it is based on a thirty-item test or on a sixty-item test. *Number correct scores are transformed to percent correct scores to remove the effect of test length.* In the same way, a score based on sixty difficult items is quite different from the same score based on sixty easy items. *Number correct scores are transformed to scaled scores to remove the effects of test length and item difficulty.*

On the surface, a scaled score of, say, 1300 does not appear to have any more meaning than a raw score of 30. A temperature of 37 degrees does not provide useful information unless the scale is anchored to some known points. Useful anchors might be the freezing point of water or perhaps the normal body temperature for humans.<sup>2</sup> To be meaningful, the new metric must be related to known objects and situations, in other words, to some sort of *measurement standard*.

#### School-Level Scaled Scores

The PSSA scaled score metric has been anchored to the *mean school level scaled score* for a base year and that point has been arbitrarily labeled 1300. The point on the scale that is one standard deviation above the mean was labeled 1400. These labels are completely arbitrary; they could have been called zero and one or any other ordered pair without affecting any of the relationships among schools, years, students or items. It would simply be changing the labels on the axis of a graph without moving any of the points.

The 1300-metric was chosen so that negative or fractional scale scores are not needed and so that the PSSA scaled scores are not easily confused with the results from any other testing program. Like the temperature scales of Fahrenheit and Celsius, the new scale will acquire meaning only with experience.

A scaled score of 1300, or any other value, should have the same absolute meaning in the current year as it had in previous years, when properly equated across years. A school with a scaled score above 1300 performed better than did the average school in the base year.

More importantly, an increase in the scaled score from last year to the current year means the students' performance has improved; it does not say anything about whether the exam

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<sup>1</sup> This is done in two steps. First, there is a nonlinear transformation that converts number correct scores to logits and then a linear transformation to convert logits to scaled scores.

<sup>2</sup> Most adults have enough experience with temperature scales that being told the temperature is on the Fahrenheit scale or on the Celsius scale is enough information to render the measure useful.



is easier or harder. To make these interpretations requires no information about the length or the difficulty of the test in either year, although all of those are essential information for deriving the scaled scores.

In the base year, the standard deviation of the school-level scaled scores was set to a value of 100. If school scores are approximately normally distributed, a scaled score of 1400, one standard deviation above the base year mean, means the school did better than about 5/6 of the schools in the base year. About two thirds of the schools will have scaled scores between 1200 and 1400. Conversely, about 16% of the schools will be below 1200. Scaled scores of 1000 and 1600 are three standard deviations from the mean and so are extreme scores.

The best guide for giving meaning to the scaled scores is experience. Knowing the typical school had a scaled score of 1300 in the base year provides a beginning for understanding the metric. Noting the performance of other known schools, such as those classified as *similar schools*, will also help define the school-level scores. Most importantly, comparing a school's score to its scores in previous years should be a good indicator of progress.

**Table 6.1: 2002 Grade Five StateWide Means of School Level Scaled Scores**

	Common and Matrix Items			
	Mean		Std. Dev	
	Norm	NonNorm	Norm	NonNorm
<b>Read</b>	1316.1	1221.5	102.2	182.0
<b>Std 01</b>	1333.5	1246.0	104.4	189.0
<b>Std 02</b>	1328.5	1231.4	100.8	177.8
<b>Std 03</b>	1325.0	1192.5	120.7	216.6
<b>Std 07</b>	1318.1	1257.4	96.0	167.8
<b>Std 08</b>	1329.8	1257.9	110.0	190.2
<b>Std MCQ</b>	1312.4	1231.6	92.4	166.0
<b>Std OE</b>	1327.8	1136.3	190.6	308.1
<b>Math</b>	1318.4	1191.5	107.2	171.0
<b>Std 01</b>	1333.0	1193.1	112.4	192.7
<b>Std 02</b>	1341.4	1218.1	123.0	213.6
<b>Calc</b>	1336.1	1209.0	120.0	206.3
<b>NonCalc</b>	1315.0	1220.6	106.8	207.2
<b>Std 03</b>	1326.5	1221.0	115.1	174.9
<b>Std 04</b>	1315.6	1208.4	113.6	197.0
<b>Std 05</b>	1321.3	1142.8	119.3	207.2
<b>Std 06</b>	1327.4	1180.7	117.5	188.4
<b>Std 07</b>	1321.0	1186.6	118.5	194.4
<b>Std 08</b>	1325.5	1193.8	108.5	172.4
<b>Std 09</b>	1330.5	1176.8	118.8	182.1
<b>Std 10</b>	1317.9	1195.5	118.8	151.9
<b>Std 11</b>	1304.2	1196.6	105.5	188.0
<b>Std MCQ</b>	1318.9	1197.8	108.6	169.6
<b>Std OE</b>	1321.3	1142.8	119.3	207.2

**Table 6.2: 2002 Grade Eight StateWide Means of School Level Scaled Scores**

	<b>Common and Matrix Items</b>			
	<b>Mean</b>		<b>Std. Dev</b>	
	<b>Norm</b>	<b>NonNorm</b>	<b>Norm</b>	<b>NonNorm</b>
<b>Read</b>	1296.5	1209.7	100.7	195.8
<b>Std 01</b>	1308.0	1235.4	108.8	212.1
<b>Std 02</b>	1311.8	1220.7	112.1	207.6
<b>Std 03</b>	1297.3	1191.5	114.1	216.1
<b>Std 07</b>	1316.7	1247.1	116.7	229.0
<b>Std 08</b>	1305.2	1222.4	96.1	197.1
<b>Std MCQ</b>	1297.7	1219.2	100.7	193.7
<b>Std OE</b>	1291.4	1144.6	153.2	285.9
<b>Math</b>	1302.3	1222.3	93.2	164.5
<b>Std 01</b>	1284.4	1198.0	104.5	187.4
<b>Std 02</b>	1339.8	1261.5	116.8	212.2
<b>Calc</b>	1347.1	1247.7	108.5	201.0
<b>NonCalc</b>	1304.8	1253.6	112.7	203.2
<b>Std 03</b>	1262.1	1168.1	104.5	177.7
<b>Std 04</b>	1354.1	1278.4	85.0	181.5
<b>Std 05</b>	1287.0	1149.0	109.7	234.5
<b>Std 06</b>	1354.2	1283.0	83.0	153.4
<b>Std 07</b>	1303.2	1195.8	115.8	211.4
<b>Std 08</b>	1295.7	1217.1	101.8	183.5
<b>Std 09</b>	1292.2	1220.0	100.4	164.0
<b>Std 10</b>	1331.2	1263.8	85.5	142.7
<b>Std 11</b>	1338.2	1254.1	88.2	159.8
<b>Std MCQ</b>	1305.4	1232.2	97.6	162.4
<b>Std OE</b>	1287.0	1149.0	109.7	234.5

Tables 6.1 through 6.3 provide the state level scaled score means for schools for both the total test and for the common section only. The total test was the basis for all school-level reporting while the common section was used for student level measures.

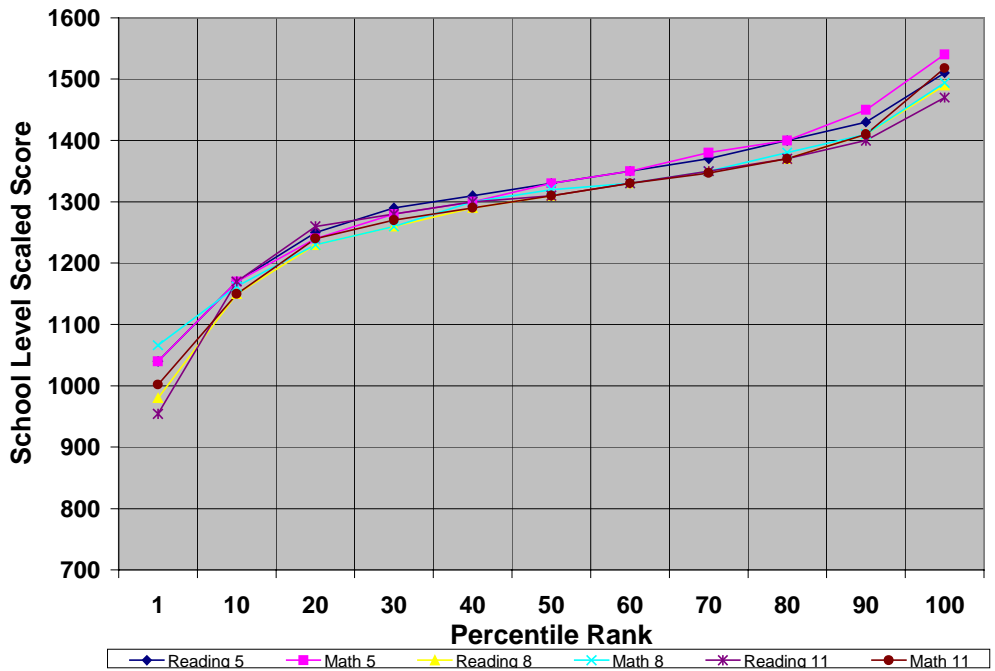
**Table 6.3: 2002 Grade Eleven StateWide Means of Student Level Scaled Scores**

	<b>Common and Matrix Items</b>			
	<b>Mean</b>		<b>Std. Dev</b>	
	<b>Norm</b>	<b>NonNorm</b>	<b>Norm</b>	<b>NonNorm</b>
<b>Read</b>	1299.2	1093.6	99.3	184.2
<b>Std 01</b>	1309.3	1131.8	96.6	183.2
<b>Std 02</b>	1309.4	1110.0	98.6	190.9
<b>Std 03</b>	1299.2	1052.2	118.0	199.7
<b>Std 07</b>	1306.4	1120.9	96.3	176.2
<b>Std 08</b>	1311.0	1090.6	104.7	207.2
<b>Std MCQ</b>	1299.7	1107.1	96.3	179.3
<b>Std OE</b>	1311.7	982.1	151.6	235.8

	Common and Matrix Items			
	Mean		Std. Dev	
	Norm	NonNorm	Norm	NonNorm
<b>Math</b>	1296.3	1112.9	100.2	142.4
<b>Std 01</b>	1311.4	1110.5	123.3	152.5
<b>Std 02</b>	1303.2	1113.8	115.0	175.0
<b>Calc</b>	1286.7	1102.2	114.6	172.7
<b>NonCalc</b>	1279.4	1123.0	92.4	165.8
<b>Std 03</b>	1276.6	1060.7	106.5	166.0
<b>Std 04</b>	1290.2	1104.9	103.5	172.6
<b>Std 05</b>	1257.8	957.0	131.3	207.9
<b>Std 06</b>	1291.4	1093.3	109.5	171.0
<b>Std 07</b>	1309.8	1166.4	89.3	144.2
<b>Std 08</b>	1278.1	1081.0	107.9	150.1
<b>Std 09</b>	1274.7	1069.6	118.8	152.2
<b>Std 10</b>	1285.9	1126.9	100.4	131.7
<b>Std 11</b>	1274.1	1099.4	102.3	157.7
<b>Std MCQ</b>	1282.7	1106.7	102.2	139.3
<b>Std OE</b>	1257.8	957.0	131.3	207.9

Another approach to benchmarks is the percentile rank as shown in Figure 6.1 below. This chart converts the school level scaled score into a percentile rank that describes the distribution of scores for all schools in the norming sample for the current year. This chart applies only to school level scaled scores computed from the common sections of the exam and can not be used for student level scores. A complete table of school level percentile ranks is given in the Appendix.

Figure 6.1 2002 School Level Percentiles



### Student Level Scaled Scores

This discussion has been focused on the meaning of the metric at the school level. For the students, the mean scaled score will also be close to 1300, but the standard deviation will about twice as large.

In interpreting a student-level scaled score, the student's measure can be compared to the mean of the school or to other students in the state. Another approach is the percentile rank table. Table 6.4 converts the student-level scaled scores into a percentile rank that describes the distribution of scores for all students in the norming sample for the current year. This table applies only to student-level scaled scores computed from the common sections of the exam and cannot be used for school-level scores.

A complete percentile rank table that includes conversions for points received as well as scaled scores is included in the appendices.

Percentile	Grade Five		Grade Eight		Grade Eleven		Percentile
	Math	Reading	Math	Reading	Math	Reading	
1	881	812	925	778	886	768	1
5	987	949	1004	919	972	913	5
10	1044	1034	1061	1012	1033	1012	10
15	1098	1099	1102	1070	1075	1093	15
20	1138	1148	1140	1128	1116	1146	20
25	1169	1199	1168	1171	1142	1187	25
30	1199	1234	1196	1215	1180	1228	30
35	1229	1252	1232	1245	1218	1255	35
40	1260	1290	1260	1275	1243	1284	40
45	1292	1309	1287	1306	1280	1313	45
50	1314	1330	1306	1338	1305	1343	50
55	1337	1351	1335	1355	1341	1358	55
60	1374	1374	1366	1389	1378	1390	60
65	1400	1397	1398	1407	1402	1406	65
70	1429	1422	1421	1444	1438	1440	70
75	1460	1449	1459	1464	1474	1476	75
80	1494	1477	1486	1505	1511	1495	80
85	1533	1508	1534	1526	1562	1535	85
90	1579	1543	1571	1573	1605	1578	90
95	1665	1625	1642	1655	1695	1627	95
99	1853	1823	1792	1757	1893	1745	99

### PSSA Performance Levels For Math and Reading

- **Advanced:** Superior academic performance indicating an in-depth understanding and exemplary display of the skills included in Pennsylvania’s Academic Standards;
- **Proficient:** Satisfactory academic performance indicating a solid understanding and adequate display of the skills included in Pennsylvania’s Academic Standards;
- **Basic:** Marginal academic performance, work approaching, but not yet reaching, satisfactory performance. Performance indicates a partial understanding and limited display of the skills included in Pennsylvania’s Academic Standards. The student may need additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level;
- **Below Basic:** Inadequate academic performance that indicates little understanding and minimal display of the skills included in the Pennsylvania Academic Content Standards. There is a major need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.

The scores that correspond with each performance level are located in Table 6.5.

**Table 6.5: Scores Associated With Performance Levels**

Performance Levels for Each Grade and Subject		
	Mathematics	Reading
<b>Grade 5</b>		
Advanced	1460 and above	1480 and above
Proficient	1300 -- 1459	1300 - 1479
Basic	1170 -- 1299	1160 - 1299
Below Basic	1169 and below	1159 and below
<b>Grade 8</b>		
Advanced	1510 and above	1490 and above
Proficient	1300 -- 1509	1280 -- 1489
Basic	1180 -- 1299	1130 -- 1279
Below Basic	1179 and below	1129 and below
<b>Grade 11</b>		
Advanced	1490 and above	1520 and above
Proficient	1310 -- 1489	1290 -- 1519
Basic	1180 -- 1309	1140 -- 1289
Below Basic	1179 and below	1139 and below

## PSSA Reliability of Performance Levels

### Indicators of Consistency

Criterion-referenced tests are often used to place the examinees into two or more performance classifications. It is then useful to have some indication of how consistent such classifications are. Livingston (1972) argued that a measure of consistency should be a function of the reliability of the test increases and the distance between the performance standard and the mean of the distribution. Livingston's coefficient, which was formulated from the perspective of True Score Theory, is defined by:

$$1. \quad \kappa^2(X,T) = [ \sigma^2_T + (\mu_T - C)^2 ] / [ \sigma^2_X + (\mu_X - C)^2 ]$$

If the expressions in parenthesis are zero, equation 1 is the ratio of the true score variance to the observed score variance, which is a standard definition of reliability. The numerator is increased by adding the squared difference between the true score mean and the cut score. The denominator is increased by the difference between the observed score mean and the cut score.

The coefficient is normally computed, from data, by setting the true score mean equal to the observed score mean and multiplying the observed score variance by the KR-20 reliability coefficient to obtain a value for the true score variance.

$$2. \quad \kappa^2(X,T) = [ r \sigma^2_X + (\mu_X - C)^2 ] / [ \sigma^2_X + (\mu_X - C)^2 ]$$

If  $(\mu_X - C)$  is zero, expression 2 will return the value of the KR-20; if it is non-zero, the value will be larger than the KR-20.

For the 2002 PSSA, values for the Livingston Coefficient of Consistency are given in the table below.

**Table 6.6: 2002 Reliability of Performance Levels for the PSSA**

GRADE	CONTENT	BASIC	PROFICIENT	ADVANCED
Five	Reading	.94	.91	.95
	Math	.95	.93	.96
Eight	Reading	.96	.94	.97
	Math	.96	.94	.97
Eleven	Reading	.96	.94	.97
	Math	.96	.94	.97

## Appendix A: 2002 PSSA Distribution Summaries by Form Mathematics and Reading

Grade	Content	Form	Number of Examinees	Number of Score Points	Number of Points Received			Test Retest Reliability	Percent of Points Received				
					Mean	Std Dev	Std Error of Meas		Min Score	25th %ile	Median	75th %ile	Max Score
5	Math	A	11467	105	67.0	20.0	5.2	0.93	9.5	49.7	66.2	79.5	100.0
		B	11355	105	67.2	19.3	5.1	0.93	10.5	50.7	66.4	79.0	99.0
		C	11389	105	66.7	19.0	5.0	0.93	0.0	50.4	65.9	78.2	100.0
		D	11492	105	66.5	18.7	5.0	0.93	5.7	50.5	65.8	77.6	99.0
		E	11529	105	65.7	19.3	5.0	0.93	11.4	49.2	64.4	77.4	99.0
		F	11633	105	67.6	19.4	5.0	0.93	11.4	51.1	67.1	79.4	100.0
		G	11713	105	67.4	19.6	5.0	0.93	11.4	51.1	67.0	79.2	100.0
		H	11661	105	66.8	18.9	5.0	0.93	7.6	51.0	66.2	78.4	98.1
		I	11616	105	68.5	18.7	5.0	0.93	9.5	53.1	67.5	79.7	99.0
		J	11626	105	67.0	19.4	5.0	0.93	12.4	50.5	66.4	78.9	99.0
		K	11791	105	67.8	19.4	5.1	0.93	10.5	51.0	67.0	79.5	100.0
		L	11667	105	67.3	19.0	5.0	0.93	12.4	51.0	66.3	78.9	98.1
			Common	138939	85	54.8	15.9	4.5	0.92	0.0	51.0	67.1	79.8
8	Math	A	11412	105	63.5	21.3	5.4	0.94	6.7	44.3	62.2	77.5	99.0
		B	11350	105	62.4	21.2	5.3	0.94	9.5	43.1	60.3	76.4	99.0
		C	11379	105	63.1	21.4	5.4	0.94	13.3	43.9	61.4	77.3	100.0
		D	11401	105	63.5	21.3	5.3	0.94	12.4	44.2	61.9	77.6	100.0
		E	11445	105	63.1	21.1	5.3	0.94	9.5	44.0	61.6	77.0	100.0
		F	11480	105	62.9	21.2	5.4	0.94	10.5	43.9	60.9	76.8	100.0
		G	11518	105	62.6	21.5	5.4	0.94	11.4	43.1	61.1	76.8	100.0
		H	11461	105	63.0	21.5	5.3	0.94	12.4	43.4	61.3	77.2	100.0
		I	11475	105	63.4	21.7	5.4	0.94	10.5	43.8	61.4	77.9	100.0
		J	11571	105	63.8	21.8	5.5	0.94	8.6	44.0	62.7	78.5	100.0
		K	11560	105	63.0	21.2	5.4	0.94	13.3	43.6	61.3	77.0	99.0
		L	11476	105	64.1	22.0	5.4	0.94	11.4	44.2	62.6	79.2	100.0
			Common	137528	85	52.0	17.4	4.8	0.92	7.1	44.8	62.9	78.6
11	Math	A	9883	105	57.5	20.2	5.1	0.94	12.4	39.4	54.4	69.7	98.1
		B	9876	105	57.5	20.8	5.3	0.93	9.5	38.7	54.4	70.3	99.0
		C	9873	105	57.1	19.4	5.2	0.93	8.6	39.7	53.2	68.7	99.0
		D	9905	105	57.4	21.1	5.3	0.94	8.6	38.0	53.8	71.1	99.0
		E	9962	105	59.0	20.2	5.3	0.93	8.6	40.9	56.1	71.6	99.0
		F	10007	105	57.9	19.9	5.2	0.93	8.6	40.2	54.8	69.5	98.1
		G	10045	105	57.8	20.5	5.2	0.94	10.5	39.6	54.4	70.3	98.1
		H	10073	105	58.1	19.8	5.2	0.93	11.4	40.6	55.1	70.1	99.0
		I	10099	105	59.2	20.7	5.3	0.93	0.0	40.6	56.2	72.3	99.0
		J	10061	105	58.1	20.1	5.1	0.94	6.7	40.2	55.4	70.4	99.0
		K	10179	105	58.5	20.2	5.2	0.93	9.5	40.6	55.3	70.9	99.0
		L	10139	105	58.1	20.3	5.3	0.93	8.6	40.0	54.4	70.4	98.1
			Common	120102	85	46.9	16.8	4.7	0.92	0.0	39.3	54.5	70.7

## Appendix A: 2002 PSSA Distribution Summaries by Form Mathematics and Reading

Grade	Content	Form	Number of Examinees	Number of Score Points	Number of Points Received			Test Retest Reliability	Percent of Points Received				
					Mean	Std Dev	Std Error of Meas		Min Score	25th %ile	75th %ile	Max Score	
5	Reading	A	11447	89	58.9	15.5	4.1	0.93	11.2	55.7	70.4	79.6	100.0
		B	11346	89	59.3	14.2	4.0	0.92	11.2	57.7	70.4	78.7	96.6
		C	11379	88	59.5	13.4	4.0	0.91	0.0	59.8	71.1	78.7	97.7
		D	11490	88	59.9	14.1	4.0	0.92	4.5	59.2	71.9	80.2	98.9
		E	11526	88	60.9	14.0	3.9	0.92	13.6	60.6	73.1	81.1	98.9
		F	11621	89	58.5	13.4	4.0	0.91	9.0	57.4	68.8	76.9	96.6
		G	11695	86	57.5	13.1	3.9	0.91	11.6	58.9	70.2	78.0	97.7
		H	11656	88	58.7	14.1	4.0	0.92	9.1	57.5	69.9	78.8	97.7
		I	11606	89	60.1	13.7	4.0	0.92	7.9	58.8	70.8	79.0	98.9
		J	11618	90	60.4	14.2	4.0	0.92	13.3	58.7	70.8	78.9	97.8
		K	11794	88	58.6	13.4	4.0	0.91	11.4	58.5	69.7	77.8	96.6
		L	11664	88	57.8	14.1	4.1	0.92	5.7	55.9	68.8	77.9	98.9
			Common		138842	60	41.0	9.7	3.3	0.88	0.0	59.5	71.9
8	Reading	A	11418	119	75.8	19.4	4.8	0.94	10.1	53.7	67.0	76.2	95.0
		B	11346	120	75.2	19.6	5.0	0.94	10.0	52.1	65.6	75.5	94.2
		C	11386	120	78.0	19.6	4.8	0.94	11.7	55.3	68.3	77.5	95.8
		D	11406	120	74.5	19.9	4.9	0.94	9.2	51.3	64.9	75.1	94.2
		E	11434	120	77.6	19.4	4.8	0.94	11.7	54.7	67.8	77.2	94.2
		F	11482	120	77.2	19.3	4.8	0.94	10.8	55.1	67.7	76.5	95.8
		G	11506	120	78.2	19.8	4.8	0.94	5.0	55.4	68.7	77.8	98.3
		H	11423	119	76.3	19.7	4.9	0.94	11.8	54.0	67.1	76.7	95.0
		I	11479	119	76.3	19.0	4.9	0.93	13.4	54.6	67.7	76.3	95.8
		J	11547	120	76.5	19.0	4.9	0.93	14.2	54.2	66.7	75.9	95.0
		K	11572	120	77.2	18.9	4.8	0.94	9.2	55.1	67.6	76.1	94.2
		L	11453	119	74.9	19.5	4.9	0.94	10.9	52.6	66.0	75.4	95.0
			Common		137464	80	51.2	13.0	4.0	0.90	7.5	54.1	66.9
11	Reading	A	9893	132	84.5	21.4	5.2	0.94	9.8	54.4	67.3	76.5	94.7
		B	9842	132	84.8	21.2	5.2	0.94	11.4	54.3	67.6	76.7	93.9
		C	9843	132	82.8	20.4	5.2	0.94	4.5	53.1	65.3	74.7	94.7
		D	9885	132	85.9	21.2	5.2	0.94	12.9	55.4	68.2	77.4	97.0
		E	9948	132	83.9	20.1	5.2	0.93	4.5	54.6	66.5	75.1	96.2
		F	9989	132	84.4	21.0	5.2	0.94	9.8	54.2	66.8	76.1	95.5
		G	10022	132	83.6	21.0	5.2	0.94	3.0	53.5	65.8	75.7	95.5
		H	10044	132	84.4	20.6	5.2	0.94	4.5	54.5	66.7	76.0	96.2
		I	10098	132	83.7	20.9	5.2	0.94	0.0	53.4	66.6	75.9	93.2
		J	10047	132	86.0	21.0	5.2	0.94	4.5	56.2	68.6	77.3	93.9
		K	10165	132	84.1	20.7	5.2	0.94	15.2	54.1	66.5	75.6	95.5
		L	10114	132	85.6	20.6	5.2	0.94	3.8	55.9	67.9	76.7	93.9
			Common		119890	88	57.0	13.8	4.2	0.91	0.0	55.7	67.9



**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	53	B	-2.80	0.00	0.95	0.29	0.01	0.947 *	0.04	0.00	0.00	0.00	-0.08	0.292 *	-0.28	-0.05
A	54	D	-1.99	0.00	0.89	0.12	0.08	0.01	0.01	0.894 *	0.00	0.00	-0.01	-0.15	-0.14	0.120 *
A	55	D	-0.20	0.00	0.65	0.41	0.06	0.07	0.22	0.648 *	0.00	0.00	-0.27	-0.21	-0.19	0.414 *
A	56	C	-0.48	0.00	0.70	0.48	0.08	0.10	0.699 *	0.13	0.00	0.00	-0.23	-0.19	0.475 *	-0.29
A	57	B	-0.06	0.00	0.62	0.51	0.06	0.622 *	0.18	0.13	0.00	0.00	-0.17	0.513 *	-0.28	-0.29
A	58	C	-0.62	0.00	0.72	0.49	0.10	0.07	0.722 *	0.10	0.00	0.00	-0.27	-0.23	0.485 *	-0.25
A	59	A	-0.01	0.00	0.61	0.43	0.611 *	0.06	0.15	0.18	0.00	0.00	0.434 *	-0.17	-0.28	-0.19
A	60	D	0.56	0.00	0.50	0.39	0.21	0.08	0.22	0.501 *	0.00	0.00	-0.20	-0.28	-0.09	0.388 *
A	61	D	0.69	0.00	0.48	0.11	0.15	0.27	0.10	0.475 *	0.00	0.00	0.010 ?	-0.10	-0.04	0.107 *
A	62	C	-1.23	0.00	0.81	0.48	0.07	0.06	0.812 *	0.05	0.00	0.00	-0.24	-0.30	0.478 *	-0.23
A	63	A	-1.01	0.00	0.78	0.31	0.783 *	0.07	0.06	0.09	0.00	0.00	0.313 *	-0.25	-0.12	-0.12
A	64	C	-1.04	0.00	0.79	0.48	0.07	0.11	0.787 *	0.04	0.00	0.00	-0.17	-0.37	0.483 *	-0.21
A	65	C	0.25	0.00	0.56	0.52	0.11	0.24	0.561 *	0.09	0.00	0.00	-0.20	-0.35	0.516 *	-0.15
A	66	A	0.82	0.00	0.45	0.31	0.450 *	0.19	0.19	0.17	0.00	0.00	0.313 *	-0.10	-0.16	-0.14
A	67	D	-0.12	0.00	0.63	0.47	0.11	0.13	0.12	0.633 *	0.00	0.00	-0.23	-0.20	-0.25	0.468 *
B	53	C	-1.06	0.00	0.79	0.54	0.06	0.11	0.792 *	0.04	0.00	0.00	-0.34	-0.35	0.538 *	-0.14
B	54	A	-2.65	0.00	0.94	0.29	0.940 *	0.01	0.02	0.03	0.00	0.00	0.288 *	-0.16	-0.13	-0.20
B	55	D	-1.02	0.00	0.79	0.30	0.15	0.03	0.03	0.786 *	0.00	0.00	-0.19	-0.12	-0.18	0.296 *
B	56	A	-0.85	0.00	0.76	0.26	0.760 *	0.02	0.02	0.20	0.00	0.00	0.260 *	-0.13	-0.15	-0.17
B	57	C	-0.47	0.00	0.70	0.40	0.13	0.07	0.698 *	0.10	0.00	0.00	-0.24	-0.15	0.396 *	-0.21
B	58	D	-3.47	0.00	0.97	0.24	0.01	0.01	0.01	0.972 *	0.00	0.00	-0.15	-0.14	-0.12	0.242 *
B	59	B	-0.57	0.00	0.72	0.25	0.02	0.715 *	0.25	0.01	0.00	0.00	-0.14	0.248 *	-0.18	-0.13
B	60	A	-0.19	0.00	0.65	0.55	0.647 *	0.08	0.10	0.16	0.00	0.00	0.554 *	-0.20	-0.27	-0.33
B	61	B	0.31	0.00	0.55	0.37	0.20	0.551 *	0.13	0.12	0.00	0.00	-0.16	0.369 *	-0.13	-0.22
B	62	D	0.82	0.00	0.45	0.35	0.25	0.19	0.10	0.450 *	0.00	0.00	-0.17	-0.19	-0.07	0.348 *
B	63	B	-0.74	0.00	0.74	0.26	0.10	0.742 *	0.09	0.07	0.00	0.00	-0.16	0.255 *	-0.09	-0.15
B	64	D	-0.37	0.00	0.68	0.44	0.17	0.05	0.09	0.681 *	0.00	0.00	-0.25	-0.20	-0.23	0.444 *
B	65	B	-0.12	0.00	0.64	0.45	0.07	0.635 *	0.23	0.07	0.00	0.00	-0.22	0.453 *	-0.19	-0.32
B	66	D	-0.63	0.00	0.73	0.29	0.06	0.12	0.10	0.725 *	0.00	0.00	-0.10	-0.17	-0.17	0.292 *
B	67	C	0.03	0.00	0.61	0.52	0.07	0.23	0.606 *	0.09	0.00	0.00	-0.20	-0.35	0.515 *	-0.18

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	54	B	-0.29	0.00	0.67	0.38	0.25	0.666 *	0.02	0.06	0.00	0.00	-0.21	0.378 *	-0.19	-0.25
C	55	D	-0.88	0.00	0.76	0.41	0.03	0.09	0.11	0.764 *	0.00	0.00	-0.08	-0.27	-0.25	0.409 *
C	56	C	-1.29	0.00	0.82	0.46	0.03	0.13	0.821 *	0.03	0.00	0.00	-0.18	-0.36	0.457 *	-0.15
C	57	B	-0.81	0.00	0.75	0.45	0.13	0.753 *	0.04	0.07	0.00	0.00	-0.28	0.450 *	-0.24	-0.18
C	58	A	-1.85	0.00	0.88	0.40	0.881 *	0.04	0.02	0.06	0.00	0.00	0.400 *	-0.20	-0.21	-0.25
C	59	C	0.52	0.00	0.51	0.35	0.30	0.14	0.511 *	0.04	0.00	0.00	-0.31	-0.09	0.350 *	0.000 ?
C	60	A	-1.42	0.00	0.84	0.37	0.836 *	0.11	0.02	0.03	0.00	0.00	0.368 *	-0.19	-0.20	-0.26
C	61	B	0.81	0.00	0.45	0.30	0.16	0.453 *	0.20	0.19	0.00	0.00	-0.13	0.301 *	-0.19	-0.06
C	62	D	1.76	0.00	0.28	0.33	0.544 ?	0.08	0.09	0.281 *	0.00	0.00	-0.16	-0.23	-0.02	0.328 *
C	63	A	-1.05	0.00	0.79	0.47	0.788 *	0.10	0.09	0.02	0.00	0.00	0.473 *	-0.27	-0.27	-0.22
C	64	B	1.06	0.00	0.41	0.25	0.05	0.406 *	0.34	0.20	0.00	0.00	-0.17	0.249 *	-0.05	-0.15
C	65	A	-3.38	0.00	0.97	0.24	0.968 *	0.02	0.01	0.01	0.00	0.00	0.239 *	-0.15	-0.13	-0.12
C	66	D	0.40	0.00	0.54	0.45	0.09	0.27	0.11	0.535 *	0.00	0.00	-0.17	-0.30	-0.14	0.454 *
C	67	C	0.58	0.00	0.50	0.39	0.24	0.10	0.500 *	0.15	0.00	0.00	-0.09	-0.25	0.389 *	-0.21
D	54	A	-2.22	0.00	0.92	0.28	0.916 *	0.02	0.01	0.06	0.00	0.00	0.279 *	-0.12	-0.11	-0.23
D	55	B	-1.93	0.00	0.89	0.37	0.03	0.893 *	0.05	0.03	0.00	0.00	-0.22	0.365 *	-0.22	-0.17
D	56	C	-0.56	0.00	0.72	0.41	0.14	0.11	0.717 *	0.04	0.00	0.00	-0.26	-0.17	0.408 *	-0.21
D	57	B	-2.04	0.00	0.90	0.38	0.02	0.902 *	0.05	0.03	0.00	0.00	-0.16	0.382 *	-0.23	-0.24
D	58	B	-0.79	0.00	0.75	0.38	0.08	0.754 *	0.08	0.08	0.00	0.00	-0.19	0.375 *	-0.18	-0.22
D	59	C	0.12	0.00	0.59	0.37	0.06	0.31	0.591 *	0.04	0.00	0.00	-0.24	-0.20	0.372 *	-0.18
D	60	B	0.46	0.00	0.53	0.20	0.06	0.525 *	0.37	0.04	0.00	0.00	-0.12	0.202 *	-0.05	-0.23
D	61	D	1.16	0.00	0.38	0.08	0.47	0.05	0.10	0.383 *	0.00	0.00	0.145 ?	-0.21	-0.21	0.075 *
D	62	C	-1.47	0.00	0.85	0.44	0.05	0.06	0.847 *	0.04	0.00	0.00	-0.27	-0.26	0.440 *	-0.18
D	63	C	1.40	0.00	0.34	0.33	0.28	0.31	0.339 *	0.08	0.00	0.00	-0.33	-0.07	0.331 *	0.088 ?
D	64	A	-0.44	0.00	0.70	0.36	0.697 *	0.10	0.08	0.12	0.00	0.00	0.364 *	-0.24	-0.22	-0.10
D	65	A	-0.86	0.00	0.77	0.35	0.765 *	0.04	0.17	0.02	0.00	0.00	0.353 *	-0.25	-0.18	-0.22
D	66	B	-0.62	0.00	0.73	0.44	0.11	0.728 *	0.11	0.06	0.00	0.00	-0.28	0.440 *	-0.22	-0.17
D	67	D	1.11	0.00	0.39	0.14	0.18	0.14	0.28	0.393 *	0.00	0.00	-0.20	-0.17	0.156 ?	0.139 *

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	54	D	-1.97	0.00	0.89	0.39	0.04	0.05	0.01	0.894 *	0.00	0.00	-0.23	-0.26	-0.15	0.394 *
E	55	B	-0.81	0.00	0.75	0.41	0.06	0.753 *	0.13	0.05	0.00	0.00	-0.24	0.414 *	-0.22	-0.19
E	56	A	-0.86	0.00	0.76	0.43	0.761 *	0.15	0.05	0.04	0.00	0.00	0.426 *	-0.26	-0.26	-0.17
E	57	D	-1.26	0.00	0.82	0.38	0.04	0.06	0.08	0.818 *	0.00	0.00	-0.21	-0.13	-0.27	0.382 *
E	58	D	0.34	0.00	0.55	0.52	0.07	0.23	0.15	0.545 *	0.00	0.00	-0.25	-0.31	-0.17	0.523 *
E	59	D	-0.10	0.00	0.63	0.44	0.19	0.12	0.06	0.630 *	0.00	0.00	-0.19	-0.22	-0.28	0.442 *
E	60	B	-0.17	0.00	0.64	0.41	0.12	0.644 *	0.12	0.11	0.00	0.00	-0.14	0.407 *	-0.18	-0.28
E	61	C	0.53	0.00	0.51	0.42	0.24	0.17	0.507 *	0.09	0.00	0.00	-0.20	-0.18	0.422 *	-0.21
E	62	A	-0.21	0.00	0.65	0.49	0.651 *	0.09	0.07	0.20	0.00	0.00	0.493 *	-0.23	-0.18	-0.32
E	63	A	-0.90	0.00	0.77	0.42	0.767 *	0.08	0.07	0.08	0.00	0.00	0.419 *	-0.25	-0.18	-0.23
E	64	C	1.07	0.00	0.40	0.39	0.519 ?	0.03	0.401 *	0.05	0.00	0.00	-0.27	-0.15	0.388 *	-0.12
E	65	B	-0.11	0.00	0.63	0.34	0.29	0.633 *	0.05	0.03	0.00	0.00	-0.22	0.343 *	-0.18	-0.18
E	66	C	0.39	0.00	0.54	0.41	0.20	0.15	0.536 *	0.11	0.00	0.00	-0.12	-0.24	0.411 *	-0.22
E	67	A	0.46	0.00	0.52	0.30	0.521 *	0.21	0.11	0.16	0.00	0.00	0.298 *	-0.06	-0.17	-0.19
F	54	B	0.08	0.00	0.60	0.33	0.10	0.597 *	0.18	0.12	0.00	0.00	-0.10	0.327 *	-0.19	-0.17
F	55	B	-0.31	0.00	0.67	0.48	0.13	0.669 *	0.09	0.12	0.00	0.00	-0.21	0.478 *	-0.28	-0.23
F	56	B	-0.83	0.00	0.76	0.45	0.15	0.756 *	0.05	0.05	0.00	0.00	-0.32	0.451 *	-0.23	-0.15
F	57	A	-2.35	0.00	0.92	0.30	0.920 *	0.03	0.01	0.04	0.00	0.00	0.296 *	-0.19	-0.18	-0.14
F	58	D	-0.81	0.00	0.75	0.41	0.07	0.05	0.13	0.752 *	0.00	0.00	-0.22	-0.18	-0.25	0.414 *
F	59	B	-0.28	0.00	0.66	0.55	0.08	0.664 *	0.16	0.09	0.00	0.00	-0.18	0.549 *	-0.30	-0.34
F	60	D	-0.03	0.00	0.62	0.51	0.07	0.20	0.12	0.618 *	0.00	0.00	-0.27	-0.26	-0.23	0.508 *
F	61	D	0.50	0.00	0.52	0.43	0.10	0.09	0.30	0.516 *	0.00	0.00	-0.27	-0.12	-0.22	0.433 *
F	62	C	-0.66	0.00	0.73	0.54	0.12	0.09	0.729 *	0.06	0.00	0.00	-0.33	-0.26	0.536 *	-0.22
F	63	B	1.19	0.00	0.38	0.30	0.22	0.383 *	0.34	0.06	0.00	0.00	-0.18	0.295 *	-0.05	-0.19
F	64	C	0.24	0.00	0.57	0.32	0.13	0.12	0.566 *	0.18	0.00	0.00	-0.18	-0.15	0.324 *	-0.12
F	65	B	-1.41	0.00	0.83	0.47	0.10	0.834 *	0.04	0.03	0.00	0.00	-0.30	0.472 *	-0.25	-0.23
F	66	A	-1.37	0.00	0.83	0.52	0.830 *	0.08	0.03	0.06	0.00	0.00	0.524 *	-0.37	-0.24	-0.23
F	67	D	0.77	0.00	0.46	0.18	0.18	0.16	0.19	0.463 *	0.00	0.00	-0.03	-0.06	-0.13	0.177 *

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	54	D	-0.69	0.00	0.73	0.49	0.09	0.06	0.12	0.733 *	0.00	0.00	-0.27	-0.25	-0.25	0.493 *
G	55	C	-0.75	0.00	0.74	0.59	0.05	0.13	0.742 *	0.08	0.00	0.00	-0.17	-0.47	0.588 *	-0.23
G	56	B	-0.84	0.00	0.76	0.44	0.08	0.757 *	0.10	0.06	0.00	0.00	-0.20	0.444 *	-0.28	-0.20
G	57	A	-0.72	0.00	0.74	0.60	0.739 *	0.05	0.15	0.06	0.00	0.00	0.598 *	-0.17	-0.52	-0.16
G	58	C	-0.60	0.00	0.72	0.41	0.11	0.12	0.718 *	0.05	0.00	0.00	-0.23	-0.20	0.410 *	-0.22
G	59	B	-1.08	0.00	0.79	0.47	0.09	0.792 *	0.06	0.06	0.00	0.00	-0.29	0.473 *	-0.19	-0.27
G	60	A	0.56	0.00	0.50	0.45	0.501 *	0.15	0.14	0.21	0.00	0.00	0.446 *	-0.21	-0.25	-0.15
G	61	C	-0.13	0.00	0.64	0.49	0.16	0.11	0.636 *	0.09	0.00	0.00	-0.30	-0.24	0.485 *	-0.16
G	62	B	-0.24	0.00	0.66	0.40	0.10	0.656 *	0.13	0.12	0.00	0.00	-0.21	0.402 *	-0.14	-0.25
G	63	C	-0.89	0.00	0.76	0.49	0.15	0.04	0.764 *	0.04	0.00	0.00	-0.33	-0.20	0.494 *	-0.25
G	64	D	1.44	0.00	0.33	0.43	0.16	0.26	0.25	0.333 *	0.00	0.00	-0.30	-0.25	0.035 ?	0.433 *
G	65	D	-1.62	0.00	0.86	0.41	0.05	0.04	0.06	0.858 *	0.00	0.00	-0.25	-0.19	-0.23	0.410 *
G	66	C	-0.38	0.00	0.68	0.48	0.20	0.03	0.680 *	0.09	0.00	0.00	-0.31	-0.23	0.480 *	-0.21
G	67	A	-0.43	0.00	0.69	0.29	0.690 *	0.06	0.19	0.06	0.00	0.00	0.287 *	-0.14	-0.14	-0.17
H	54	C	-1.57	0.00	0.86	0.54	0.02	0.12	0.856 *	0.01	0.00	0.00	-0.16	-0.49	0.537 *	-0.10
H	55	D	-1.43	0.00	0.84	0.37	0.03	0.10	0.03	0.839 *	0.00	0.00	-0.24	-0.22	-0.16	0.372 *
H	56	B	-0.08	0.00	0.63	0.47	0.09	0.627 *	0.19	0.09	0.01	0.00	-0.22	0.465 *	-0.24	-0.23
H	57	B	-0.75	0.00	0.75	0.43	0.07	0.745 *	0.10	0.09	0.00	0.00	-0.20	0.427 *	-0.19	-0.28
H	58	A	1.15	0.00	0.39	0.15	0.385 *	0.19	0.28	0.15	0.00	0.00	0.153 *	-0.17	-0.08	0.084 ?
H	59	B	-2.91	0.00	0.95	0.26	0.03	0.953 *	0.01	0.01	0.00	0.00	-0.18	0.263 *	-0.11	-0.15
H	60	D	-0.70	0.00	0.74	0.40	0.21	0.03	0.02	0.736 *	0.00	0.00	-0.28	-0.20	-0.19	0.403 *
H	61	C	0.75	0.00	0.46	0.21	0.41	0.08	0.464 *	0.05	0.00	0.00	-0.04	-0.17	0.213 *	-0.18
H	62	B	-0.97	0.00	0.78	0.50	0.14	0.779 *	0.03	0.06	0.00	0.00	-0.40	0.503 *	-0.22	-0.15
H	63	A	-0.09	0.00	0.63	0.42	0.630 *	0.09	0.15	0.13	0.00	0.00	0.419 *	-0.17	-0.26	-0.18
H	64	A	0.21	0.00	0.57	0.43	0.571 *	0.21	0.08	0.14	0.00	0.00	0.428 *	-0.04	-0.28	-0.35
H	65	D	-1.63	0.00	0.86	0.41	0.06	0.04	0.04	0.862 *	0.00	0.00	-0.28	-0.19	-0.19	0.408 *
H	66	C	-0.15	0.00	0.64	0.46	0.12	0.08	0.641 *	0.16	0.00	0.00	-0.24	-0.29	0.456 *	-0.16
H	67	D	-0.16	0.00	0.64	0.46	0.13	0.14	0.09	0.643 *	0.00	0.00	-0.23	-0.22	-0.22	0.458 *

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	54	D	-2.19	0.00	0.91	0.38	0.03	0.03	0.03	0.912 *	0.00	0.00	-0.21	-0.21	-0.22	0.376 *
I	55	D	-1.33	0.00	0.83	0.39	0.07	0.05	0.05	0.829 *	0.00	0.00	-0.17	-0.25	-0.23	0.394 *
I	56	C	-1.37	0.00	0.83	0.47	0.07	0.03	0.833 *	0.07	0.00	0.00	-0.29	-0.16	0.474 *	-0.30
I	57	C	-0.94	0.00	0.78	0.42	0.08	0.08	0.775 *	0.07	0.00	0.00	-0.16	-0.26	0.420 *	-0.24
I	58	C	-1.00	0.00	0.79	0.28	0.04	0.14	0.785 *	0.04	0.00	0.00	-0.17	-0.14	0.277 *	-0.17
I	59	C	0.65	0.00	0.48	0.30	0.13	0.31	0.484 *	0.08	0.00	0.00	-0.20	-0.07	0.300 *	-0.19
I	60	C	0.06	0.00	0.60	0.33	0.03	0.31	0.601 *	0.06	0.00	0.00	-0.21	-0.14	0.328 *	-0.25
I	61	A	0.65	0.00	0.48	0.34	0.484 *	0.17	0.16	0.19	0.00	0.00	0.336 *	-0.06	-0.22	-0.16
I	62	B	-1.22	0.00	0.82	0.37	0.12	0.815 *	0.04	0.03	0.00	0.00	-0.31	0.371 *	-0.11	-0.13
I	63	A	-1.02	0.00	0.79	0.34	0.788 *	0.09	0.04	0.08	0.00	0.00	0.338 *	-0.20	-0.21	-0.14
I	64	B	0.90	0.00	0.43	0.39	0.32	0.433 *	0.17	0.07	0.00	0.00	-0.09	0.385 *	-0.28	-0.15
I	65	A	-0.90	0.00	0.77	0.48	0.770 *	0.03	0.18	0.02	0.00	0.00	0.480 *	-0.19	-0.38	-0.16
I	66	D	-0.15	0.00	0.64	0.47	0.10	0.10	0.16	0.641 *	0.00	0.00	-0.21	-0.25	-0.23	0.465 *
I	67	B	0.89	0.00	0.44	0.33	0.13	0.437 *	0.16	0.27	0.00	0.00	-0.24	0.325 *	-0.32	0.083 ?
J	54	A	-2.48	0.00	0.93	0.34	0.928 *	0.03	0.02	0.02	0.00	0.00	0.340 *	-0.16	-0.21	-0.22
J	55	D	-0.32	0.00	0.67	0.30	0.12	0.06	0.15	0.670 *	0.00	0.00	-0.23	-0.19	-0.04	0.295 *
J	56	B	-0.80	0.00	0.75	0.41	0.05	0.750 *	0.10	0.10	0.00	0.00	-0.29	0.412 *	-0.21	-0.18
J	57	B	-1.91	0.00	0.89	0.38	0.04	0.885 *	0.03	0.05	0.00	0.00	-0.20	0.382 *	-0.16	-0.26
J	58	D	-0.20	0.00	0.65	0.35	0.03	0.10	0.22	0.647 *	0.00	0.00	-0.21	-0.07	-0.27	0.354 *
J	59	A	1.21	0.00	0.38	0.34	0.379 *	0.31	0.20	0.11	0.00	0.00	0.341 *	-0.04	-0.35	-0.02
J	60	D	-0.49	0.00	0.70	0.53	0.15	0.09	0.06	0.699 *	0.00	0.00	-0.26	-0.31	-0.25	0.525 *
J	61	D	-0.96	0.00	0.77	0.53	0.05	0.13	0.04	0.773 *	0.00	0.00	-0.25	-0.34	-0.26	0.533 *
J	62	D	0.97	0.00	0.42	0.46	0.37	0.12	0.09	0.423 *	0.00	0.00	-0.30	-0.20	-0.07	0.463 *
J	63	C	-0.08	0.00	0.63	0.43	0.15	0.13	0.627 *	0.09	0.00	0.00	-0.24	-0.13	0.428 *	-0.27
J	64	C	1.49	0.00	0.33	0.46	0.48	0.11	0.329 *	0.08	0.00	0.00	-0.32	-0.03	0.455 *	-0.15
J	65	C	0.23	0.00	0.57	0.38	0.16	0.15	0.568 *	0.12	0.00	0.00	-0.15	-0.13	0.378 *	-0.26
J	66	B	-1.83	0.00	0.88	0.43	0.03	0.878 *	0.05	0.05	0.00	0.00	-0.23	0.432 *	-0.25	-0.24
J	67	C	-0.27	0.00	0.66	0.51	0.07	0.13	0.662 *	0.13	0.01	0.00	-0.27	-0.21	0.506 *	-0.29

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	54	D	-1.77	0.00	0.88	0.25	0.01	0.06	0.04	0.877 *	0.00	0.00	-0.12	-0.17	-0.12	0.252 *
K	55	A	-0.66	0.00	0.73	0.43	0.731 *	0.07	0.07	0.13	0.00	0.00	0.433 *	-0.21	-0.24	-0.22
K	56	C	-0.70	0.00	0.74	0.39	0.04	0.07	0.738 *	0.15	0.00	0.00	-0.24	-0.31	0.391 *	-0.12
K	57	C	-0.62	0.00	0.73	0.41	0.03	0.23	0.726 *	0.02	0.00	0.00	-0.21	-0.31	0.408 *	-0.15
K	58	B	-0.74	0.00	0.75	0.38	0.10	0.745 *	0.10	0.06	0.00	0.00	-0.30	0.376 *	-0.14	-0.14
K	59	D	0.76	0.00	0.46	0.17	0.29	0.13	0.12	0.461 *	0.00	0.00	-0.02	-0.10	-0.13	0.171 *
K	60	B	-0.30	0.00	0.67	0.42	0.20	0.668 *	0.06	0.08	0.00	0.00	-0.31	0.419 *	-0.18	-0.11
K	61	A	0.72	0.00	0.47	0.31	0.469 *	0.33	0.15	0.05	0.00	0.00	0.307 *	-0.12	-0.19	-0.13
K	62	C	0.23	0.00	0.57	0.36	0.09	0.25	0.567 *	0.10	0.00	0.00	-0.21	-0.11	0.359 *	-0.23
K	63	C	-0.85	0.00	0.76	0.34	0.15	0.06	0.762 *	0.03	0.00	0.00	-0.21	-0.17	0.339 *	-0.16
K	64	D	-0.48	0.00	0.70	0.38	0.08	0.07	0.15	0.702 *	0.00	0.00	-0.26	-0.22	-0.13	0.384 *
K	65	A	-0.33	0.00	0.67	0.58	0.674 *	0.17	0.03	0.12	0.00	0.00	0.576 *	-0.39	-0.15	-0.29
K	66	B	0.25	0.00	0.56	0.40	0.22	0.564 *	0.14	0.08	0.00	0.00	-0.39	0.395 *	-0.02	-0.09
K	67	B	0.17	0.00	0.58	0.45	0.28	0.580 *	0.09	0.04	0.00	0.00	-0.25	0.445 *	-0.21	-0.22
L	54	D	-2.90	0.00	0.95	0.21	0.02	0.01	0.02	0.952 *	0.00	0.00	-0.11	-0.16	-0.11	0.214 *
L	55	A	-0.73	0.00	0.74	0.48	0.741 *	0.03	0.16	0.08	0.00	0.00	0.484 *	-0.16	-0.23	-0.39
L	56	C	-0.21	0.00	0.65	0.43	0.15	0.09	0.650 *	0.12	0.00	0.00	-0.27	-0.21	0.428 *	-0.15
L	57	D	-1.13	0.00	0.80	0.27	0.08	0.05	0.07	0.800 *	0.00	0.00	-0.13	-0.17	-0.15	0.272 *
L	58	C	0.19	0.00	0.57	0.38	0.32	0.04	0.574 *	0.07	0.00	0.00	-0.25	-0.16	0.384 *	-0.17
L	59	A	0.75	0.00	0.46	0.24	0.463 *	0.17	0.20	0.17	0.00	0.00	0.236 *	-0.02	-0.20	-0.09
L	60	D	-1.05	0.00	0.79	0.47	0.11	0.03	0.07	0.790 *	0.00	0.00	-0.29	-0.18	-0.28	0.471 *
L	61	A	-1.15	0.00	0.80	0.43	0.803 *	0.12	0.05	0.03	0.00	0.00	0.434 *	-0.27	-0.23	-0.21
L	62	B	0.15	0.00	0.58	0.50	0.09	0.583 *	0.11	0.21	0.00	0.00	-0.28	0.500 *	-0.22	-0.23
L	63	B	1.20	0.00	0.38	0.39	0.18	0.376 *	0.20	0.24	0.00	0.00	-0.19	0.394 *	-0.26	-0.03
L	64	B	0.94	0.00	0.43	0.35	0.34	0.426 *	0.12	0.11	0.00	0.00	0.002 ?	0.347 *	-0.16	-0.39
L	65	D	0.26	0.00	0.56	0.47	0.13	0.17	0.14	0.561 *	0.01	0.00	-0.24	-0.21	-0.21	0.474 *
L	66	C	-0.03	0.00	0.62	0.52	0.12	0.11	0.617 *	0.15	0.00	0.00	-0.23	-0.21	0.522 *	-0.31
L	67	D	-0.89	0.00	0.77	0.41	0.06	0.09	0.09	0.767 *	0.00	0.00	-0.20	-0.22	-0.22	0.412 *

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	1	B	-1.73	0.00	0.86	0.32	0.08	0.863 *	0.03	0.03	0.00	0.00	-0.13	0.322 *	-0.22	-0.22
W	2	D	-2.37	0.00	0.92	0.28	0.01	0.03	0.05	0.915 *	0.00	0.00	-0.17	-0.15	-0.15	0.275 *
W	3	D	-0.96	0.00	0.76	0.51	0.13	0.05	0.06	0.761 *	0.00	0.00	-0.33	-0.24	-0.21	0.505 *
W	4	A	-1.28	0.00	0.80	0.50	0.801 *	0.07	0.07	0.05	0.00	0.00	0.503 *	-0.24	-0.28	-0.29
W	5	D	-0.31	0.00	0.66	0.43	0.07	0.05	0.22	0.664 *	0.00	0.00	-0.17	-0.16	-0.30	0.430 *
W	6	C	-1.82	0.00	0.87	0.47	0.03	0.03	0.871 *	0.08	0.00	0.00	-0.20	-0.22	0.470 *	-0.33
W	7	C	-0.20	0.00	0.64	0.46	0.12	0.16	0.642 *	0.08	0.00	0.00	-0.30	-0.26	0.457 *	-0.10
W	8	C	-1.63	0.00	0.85	0.44	0.05	0.03	0.854 *	0.06	0.00	0.00	-0.28	-0.18	0.441 *	-0.25
W	9	A	0.84	0.00	0.44	0.40	0.438 *	0.17	0.20	0.19	0.00	0.00	0.400 *	-0.12	-0.24	-0.14
W	10	C	-0.58	0.00	0.71	0.49	0.11	0.12	0.707 *	0.07	0.00	0.00	-0.36	-0.21	0.491 *	-0.16
W	11	C	-0.47	0.00	0.69	0.49	0.17	0.09	0.689 *	0.05	0.00	0.00	-0.34	-0.21	0.488 *	-0.17
W	12	C	-0.32	0.00	0.66	0.46	0.14	0.10	0.664 *	0.09	0.00	0.00	-0.22	-0.28	0.455 *	-0.17
W	13	A	-0.05	0.00	0.61	0.58	0.608 *	0.09	0.21	0.10	0.00	0.00	0.579 *	-0.20	-0.24	-0.43
W	14	B	-0.46	0.00	0.69	0.43	0.14	0.686 *	0.13	0.04	0.00	0.00	-0.28	0.431 *	-0.18	-0.20
W	15	B	-0.42	0.00	0.69	0.24	0.06	0.685 *	0.19	0.07	0.00	0.00	-0.19	0.237 *	-0.03	-0.21
W	16	D	0.01	0.00	0.60	0.54	0.29	0.06	0.05	0.603 *	0.00	0.00	-0.48	-0.13	-0.06	0.542 *
W	17	D	0.78	0.00	0.44	0.44	0.29	0.17	0.10	0.440 *	0.00	0.00	-0.30	-0.12	-0.13	0.440 *
W	18	D	0.21	0.00	0.56	0.56	0.15	0.08	0.21	0.560 *	0.00	0.00	-0.29	-0.28	-0.23	0.559 *
W	19	A	0.11	0.00	0.59	0.41	0.591 *	0.12	0.17	0.12	0.00	0.00	0.412 *	-0.20	-0.21	-0.18
W	20	B	0.05	0.00	0.60	0.37	0.19	0.599 *	0.05	0.17	0.00	0.00	-0.14	0.370 *	-0.14	-0.26
W	21	B	-0.25	0.00	0.65	0.55	0.08	0.649 *	0.11	0.16	0.00	0.00	-0.11	0.549 *	-0.22	-0.44
W	22	C	-0.48	0.00	0.69	0.49	0.10	0.13	0.685 *	0.09	0.00	0.00	-0.30	-0.20	0.487 *	-0.23
W	23	A	-0.70	0.00	0.72	0.44	0.724 *	0.12	0.06	0.10	0.00	0.00	0.435 *	-0.21	-0.27	-0.20
W	24	C	0.13	0.00	0.58	0.47	0.19	0.10	0.580 *	0.13	0.00	0.00	-0.27	-0.23	0.469 *	-0.16
W	111	B	-1.46	0.00	0.84	0.31	0.07	0.844 *	0.05	0.04	0.00	0.00	-0.18	0.313 *	-0.14	-0.20
W	112	D	-1.63	0.00	0.84	0.41	0.05	0.05	0.06	0.842 *	0.00	0.00	-0.20	-0.24	-0.23	0.413 *
W	113	B	-2.54	0.00	0.93	0.33	0.02	0.930 *	0.02	0.03	0.00	0.00	-0.17	0.333 *	-0.18	-0.21
W	114	C	-1.02	0.00	0.77	0.45	0.04	0.13	0.771 *	0.06	0.00	0.00	-0.19	-0.28	0.450 *	-0.24
W	115	B	-0.84	0.00	0.74	0.49	0.06	0.740 *	0.07	0.13	0.00	0.00	-0.19	0.487 *	-0.24	-0.32
W	116	A	-1.55	0.00	0.85	0.36	0.847 *	0.03	0.06	0.06	0.00	0.00	0.358 *	-0.16	-0.25	-0.16
W	117	B	-0.21	0.00	0.64	0.45	0.22	0.644 *	0.09	0.05	0.00	0.00	-0.24	0.449 *	-0.21	-0.24
W	118	D	-0.27	0.00	0.65	0.54	0.11	0.17	0.06	0.653 *	0.00	0.00	-0.28	-0.32	-0.19	0.537 *
W	119	C	0.65	0.00	0.48	0.46	0.11	0.14	0.475 *	0.27	0.00	0.00	-0.29	-0.22	0.461 *	-0.14
W	120	C	0.16	0.00	0.57	0.46	0.06	0.09	0.573 *	0.28	0.00	0.00	-0.24	-0.20	0.461 *	-0.25
W	121	A	-0.58	0.00	0.71	0.41	0.712 *	0.10	0.05	0.15	0.00	0.00	0.412 *	-0.15	-0.22	-0.28
W	122	A	-0.09	0.00	0.62	0.43	0.621 *	0.12	0.07	0.19	0.00	0.00	0.433 *	-0.22	-0.23	-0.20
W	123	A	1.05	0.00	0.40	0.28	0.395 *	0.13	0.34	0.13	0.00	0.00	0.284 *	-0.12	-0.01	-0.27
W	124	D	-0.91	0.00	0.76	0.49	0.09	0.06	0.10	0.757 *	0.00	0.00	-0.27	-0.26	-0.25	0.491 *

**Appendix B: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	125	C	-0.27	0.00	0.65	0.30	0.06	0.23	0.651 *	0.07	0.00	0.00	-0.16	-0.10	0.301 *	-0.26
W	126	C	-0.10	0.00	0.61	0.31	0.05	0.32	0.612 *	0.02	0.00	0.00	-0.26	-0.16	0.312 *	-0.18
W	127	D	-0.50	0.00	0.68	0.37	0.15	0.10	0.07	0.676 *	0.00	0.00	-0.03	-0.35	-0.19	0.365 *
W	128	B	0.13	0.00	0.60	0.45	0.16	0.603 *	0.12	0.12	0.00	0.00	-0.20	0.451 *	-0.21	-0.25
W	129	A	-0.79	0.00	0.74	0.37	0.744 *	0.06	0.12	0.07	0.00	0.00	0.371 *	-0.21	-0.15	-0.25
W	130	B	-1.25	0.00	0.83	0.39	0.04	0.825 *	0.09	0.04	0.00	0.00	-0.19	0.391 *	-0.23	-0.20
W	131	B	1.07	0.00	0.39	0.35	0.37	0.387 *	0.11	0.13	0.00	0.00	-0.11	0.347 *	-0.14	-0.21
W	132	C	0.65	0.00	0.47	0.32	0.11	0.12	0.471 *	0.30	0.00	0.00	-0.17	-0.18	0.319 *	-0.10
W	133	D	-0.72	0.00	0.73	0.56	0.07	0.16	0.04	0.727 *	0.00	0.00	-0.24	-0.40	-0.19	0.559 *
W	134	B	0.08	0.00	0.59	0.51	0.19	0.586 *	0.09	0.13	0.00	0.00	-0.29	0.513 *	-0.14	-0.29
W	136	A	-2.03	0.00	0.89	0.40	0.890 *	0.04	0.03	0.05	0.00	0.00	0.398 *	-0.19	-0.20	-0.27
W	137	B	-0.53	0.00	0.69	0.47	0.13	0.694 *	0.12	0.06	0.00	0.00	-0.19	0.466 *	-0.32	-0.21
W	138	A	-0.36	0.00	0.66	0.49	0.664 *	0.14	0.12	0.08	0.00	0.00	0.494 *	-0.34	-0.26	-0.12
W	139	C	-1.75	0.00	0.86	0.46	0.07	0.03	0.862 *	0.04	0.00	0.00	-0.35	-0.17	0.458 *	-0.20
W	140	D	-0.03	0.00	0.61	0.41	0.25	0.08	0.06	0.606 *	0.00	0.00	-0.35	-0.21	0.029 ?	0.412 *
W	141	B	-0.34	0.00	0.66	0.39	0.13	0.659 *	0.19	0.02	0.00	0.00	-0.15	0.392 *	-0.28	-0.18
W	142	C	-1.76	0.00	0.86	0.46	0.03	0.06	0.859 *	0.05	0.00	0.00	-0.20	-0.28	0.457 *	-0.26
W	143	A	-2.02	0.00	0.89	0.42	0.889 *	0.05	0.03	0.03	0.00	0.00	0.421 *	-0.26	-0.22	-0.22
W	144	B	0.59	0.00	0.49	0.41	0.12	0.490 *	0.13	0.26	0.00	0.00	-0.31	0.409 *	-0.11	-0.16
W	145	D	-1.45	0.00	0.83	0.45	0.08	0.05	0.04	0.832 *	0.00	0.00	-0.23	-0.28	-0.23	0.447 *
W	146	B	0.56	0.00	0.51	0.33	0.10	0.508 *	0.32	0.07	0.00	0.00	-0.25	0.334 *	-0.08	-0.21
W	147	C	0.46	0.00	0.51	0.44	0.17	0.16	0.508 *	0.16	0.00	0.00	-0.25	-0.14	0.440 *	-0.20
W	148	B	-0.42	0.00	0.67	0.42	0.11	0.672 *	0.14	0.08	0.00	0.00	-0.23	0.422 *	-0.22	-0.19
W	149	A	-0.22	0.00	0.65	0.49	0.648 *	0.09	0.07	0.20	0.00	0.00	0.491 *	-0.23	-0.22	-0.29
W	150	C	1.40	0.00	0.33	0.34	0.13	0.39	0.330 *	0.15	0.00	0.00	-0.22	-0.04	0.342 *	-0.18
W	151	D	-0.68	0.00	0.72	0.51	0.09	0.07	0.12	0.718 *	0.00	0.00	-0.25	-0.25	-0.28	0.506 *
W	152	A	-0.50	0.00	0.70	0.32	0.702 *	0.08	0.07	0.15	0.00	0.00	0.321 *	-0.13	-0.13	-0.22
W	153	C	0.45	0.00	0.51	0.47	0.07	0.12	0.514 *	0.30	0.00	0.00	-0.19	-0.29	0.466 *	-0.19
W	154	D	-0.86	0.00	0.75	0.44	0.05	0.11	0.08	0.754 *	0.00	0.00	-0.21	-0.27	-0.21	0.442 *
W	155	C	0.34	0.00	0.54	0.32	0.05	0.13	0.544 *	0.28	0.00	0.00	-0.16	-0.15	0.320 *	-0.16
W	156	A	0.53	0.00	0.52	0.31	0.516 *	0.09	0.29	0.10	0.00	0.00	0.307 *	-0.22	-0.04	-0.23
W	157	D	-0.86	0.00	0.74	0.53	0.09	0.08	0.09	0.743 *	0.01	0.00	-0.30	-0.25	-0.28	0.532 *



**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	63	0.92	0.02	0.41	0.34	0.18	0.06	0.01	0.00	0.41	-0.07	-0.32	-0.18
A	64	0.40	0.02	0.12	0.23	0.52	0.13	0.01	0.00	-0.22	-0.16	0.40	-0.17
A	65	-0.34	0.02	0.02	0.29	0.66	0.03	0.00	0.00	-0.19	-0.35	0.49	-0.24
A	66	-1.48	0.03	0.04	0.10	0.83	0.02	0.00	0.00	-0.21	-0.20	0.35	-0.17
A	67	0.16	0.02	0.07	0.19	0.17	0.56	0.00	0.00	-0.29	-0.29	-0.20	0.54
A	68	0.32	0.02	0.05	0.26	0.15	0.53	0.00	0.00	-0.29	-0.04	-0.11	0.24
A	69	-0.56	0.02	0.14	0.07	0.09	0.70	0.00	0.00	-0.41	-0.27	-0.28	0.64
A	70	0.09	0.02	0.09	0.58	0.28	0.06	0.00	0.00	-0.18	0.39	-0.20	-0.21
A	71	-0.80	0.02	0.74	0.05	0.14	0.07	0.00	0.00	0.35	-0.20	-0.14	-0.21
A	72	-1.46	0.03	0.02	0.83	0.11	0.04	0.00	0.00	-0.16	0.40	-0.24	-0.25
A	73	-0.96	0.02	0.11	0.03	0.09	0.76	0.00	0.00	-0.39	-0.22	-0.22	0.54
A	74	-0.21	0.02	0.12	0.63	0.16	0.08	0.00	0.00	-0.19	0.39	-0.15	-0.25
A	75	0.92	0.02	0.41	0.19	0.22	0.18	0.00	0.00	0.29	-0.10	-0.11	-0.15
A	76	0.34	0.02	0.03	0.18	0.26	0.53	0.00	0.00	-0.21	-0.38	-0.09	0.44
B	63	-0.91	0.02	0.16	0.75	0.06	0.02	0.00	0.00	-0.34	0.44	-0.21	-0.11
B	64	0.37	0.02	0.13	0.16	0.52	0.19	0.01	0.00	-0.20	-0.17	0.50	-0.30
B	65	-0.96	0.02	0.18	0.76	0.04	0.01	0.00	0.00	-0.19	0.27	-0.14	-0.11
B	66	0.13	0.03	0.13	0.14	0.57	0.16	0.00	0.00	-0.21	-0.16	0.40	-0.19
B	67	0.18	0.02	0.04	0.19	0.21	0.56	0.00	0.00	-0.20	-0.26	-0.38	0.60
B	68	-0.04	0.02	0.04	0.60	0.18	0.17	0.01	0.00	-0.16	0.37	-0.29	-0.09
B	69	0.19	0.02	0.55	0.05	0.06	0.33	0.00	0.00	0.51	-0.22	-0.25	-0.31
B	70	-0.16	0.02	0.62	0.10	0.21	0.07	0.00	0.00	0.51	-0.32	-0.24	-0.20
B	71	-1.13	0.02	0.08	0.07	0.07	0.79	0.00	0.00	-0.27	-0.28	-0.26	0.51
B	72	0.18	0.03	0.08	0.34	0.02	0.56	0.00	0.00	-0.19	-0.04	-0.16	0.19
B	73	-0.82	0.02	0.16	0.06	0.74	0.04	0.00	0.00	-0.22	-0.33	0.44	-0.15
B	74	0.46	0.02	0.19	0.12	0.19	0.50	0.00	0.00	-0.18	-0.27	-0.25	0.52
B	75	1.15	0.02	0.37	0.24	0.31	0.08	0.00	0.00	0.41	-0.08	-0.27	-0.14
B	76	-1.25	0.02	0.80	0.07	0.08	0.04	0.00	0.00	0.28	-0.16	-0.14	-0.16
B	77	0.36	0.02	0.12	0.11	0.52	0.25	0.00	0.00	-0.18	-0.07	0.52	-0.41

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	64	-0.28	0.02	0.23	0.65	0.08	0.03	0.01	0.00	0.01	0.21	-0.24	-0.18
C	65	0.67	0.02	0.06	0.30	0.17	0.46	0.00	0.00	-0.19	-0.32	-0.17	0.53
C	66	0.14	0.03	0.57	0.10	0.10	0.23	0.00	0.00	0.36	-0.15	-0.08	-0.26
C	67	-0.02	0.02	0.21	0.12	0.07	0.60	0.00	0.00	-0.22	-0.24	-0.29	0.50
C	68	-0.54	0.02	0.24	0.69	0.04	0.03	0.00	0.00	-0.04	0.20	-0.18	-0.22
C	69	0.55	0.02	0.23	0.17	0.48	0.11	0.00	0.00	-0.25	-0.08	0.35	-0.12
C	70	-0.03	0.02	0.15	0.60	0.07	0.19	0.00	0.00	-0.11	0.38	-0.22	-0.23
C	71	-0.20	0.02	0.07	0.16	0.13	0.63	0.00	0.00	-0.19	-0.14	-0.34	0.45
C	72	-0.37	0.03	0.16	0.66	0.09	0.09	0.00	0.00	0.09	0.13	-0.11	-0.22
C	73	-1.39	0.02	0.82	0.06	0.07	0.05	0.00	0.00	0.56	-0.31	-0.31	-0.27
C	74	-0.75	0.02	0.11	0.09	0.73	0.07	0.00	0.00	-0.31	-0.27	0.52	-0.22
C	75	0.25	0.02	0.04	0.54	0.07	0.35	0.00	0.00	-0.24	0.37	-0.24	-0.16
C	76	-0.01	0.02	0.25	0.05	0.10	0.60	0.00	0.00	-0.23	-0.22	-0.31	0.50
C	77	1.12	0.02	0.22	0.24	0.17	0.37	0.00	0.00	-0.17	-0.18	-0.21	0.47
D	64	-1.25	0.02	0.05	0.80	0.11	0.03	0.00	0.00	-0.28	0.50	-0.33	-0.18
D	65	-0.63	0.02	0.11	0.10	0.71	0.08	0.00	0.00	-0.25	-0.27	0.51	-0.26
D	66	-0.56	0.03	0.70	0.05	0.05	0.20	0.00	0.00	0.36	-0.22	-0.19	-0.18
D	67	0.29	0.02	0.20	0.19	0.54	0.08	0.00	0.00	-0.08	-0.28	0.41	-0.22
D	68	-0.54	0.02	0.69	0.16	0.07	0.07	0.00	0.00	0.50	-0.32	-0.30	-0.14
D	69	-0.51	0.02	0.07	0.69	0.13	0.11	0.01	0.00	-0.23	0.52	-0.26	-0.29
D	70	0.34	0.02	0.22	0.53	0.15	0.09	0.00	0.00	-0.04	0.29	-0.22	-0.16
D	71	-0.37	0.02	0.16	0.08	0.66	0.09	0.00	0.00	-0.13	-0.22	0.34	-0.17
D	72	1.40	0.03	0.51	0.13	0.32	0.04	0.00	0.00	-0.01	-0.27	0.22	-0.03
D	73	0.39	0.02	0.21	0.52	0.18	0.08	0.01	0.00	-0.25	0.43	-0.18	-0.15
D	74	0.04	0.02	0.14	0.08	0.19	0.59	0.00	0.00	-0.14	-0.30	-0.27	0.49
D	75	-0.67	0.02	0.07	0.17	0.72	0.04	0.00	0.00	-0.16	-0.36	0.48	-0.17
D	76	0.23	0.02	0.09	0.55	0.18	0.19	0.00	0.00	-0.02	0.43	-0.27	-0.26
D	77	0.12	0.02	0.15	0.15	0.12	0.57	0.00	0.00	-0.25	-0.24	-0.19	0.48

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	64	-0.17	0.02	0.63	0.25	0.09	0.03	0.01	0.00	0.44	-0.22	-0.28	-0.19
E	65	-1.72	0.02	0.86	0.01	0.04	0.08	0.00	0.00	0.36	-0.15	-0.22	-0.23
E	66	-0.62	0.03	0.08	0.10	0.11	0.71	0.00	0.00	-0.25	-0.17	-0.16	0.37
E	67	0.09	0.02	0.16	0.16	0.11	0.58	0.00	0.00	-0.43	-0.31	-0.15	0.64
E	68	0.63	0.02	0.17	0.22	0.47	0.13	0.01	0.00	-0.07	-0.15	0.26	-0.12
E	69	-0.78	0.02	0.08	0.73	0.09	0.09	0.01	0.00	-0.23	0.43	-0.24	-0.19
E	70	0.55	0.02	0.23	0.49	0.16	0.13	0.00	0.00	-0.17	0.32	-0.17	-0.07
E	71	0.55	0.02	0.14	0.23	0.48	0.14	0.00	0.00	-0.20	0.02	0.26	-0.18
E	72	-0.39	0.03	0.08	0.12	0.13	0.67	0.00	0.00	-0.16	-0.24	-0.27	0.46
E	73	0.48	0.02	0.22	0.15	0.50	0.13	0.01	0.00	-0.21	-0.18	0.37	-0.10
E	74	0.55	0.02	0.17	0.16	0.18	0.48	0.01	0.00	-0.12	-0.24	-0.25	0.47
E	75	-0.50	0.02	0.04	0.69	0.13	0.15	0.00	0.00	-0.19	0.51	-0.23	-0.35
E	76	-0.12	0.02	0.12	0.10	0.15	0.62	0.00	0.00	-0.35	-0.26	-0.15	0.51
E	77	-0.36	0.02	0.15	0.12	0.66	0.07	0.01	0.00	-0.33	-0.24	0.51	-0.16
F	64	0.01	0.02	0.14	0.59	0.23	0.03	0.00	0.00	-0.29	0.42	-0.21	-0.09
F	65	0.23	0.02	0.55	0.12	0.15	0.18	0.00	0.00	0.50	-0.10	-0.22	-0.36
F	66	0.13	0.03	0.20	0.22	0.57	0.02	0.00	0.00	-0.40	-0.22	0.53	-0.10
F	67	-1.98	0.02	0.02	0.06	0.89	0.03	0.00	0.00	-0.19	-0.21	0.35	-0.20
F	68	0.00	0.02	0.26	0.59	0.08	0.07	0.00	0.00	-0.20	0.45	-0.27	-0.23
F	69	1.05	0.02	0.39	0.22	0.19	0.20	0.01	0.00	0.39	-0.12	-0.20	-0.16
F	70	0.54	0.02	0.25	0.05	0.49	0.21	0.00	0.00	-0.28	-0.25	0.45	-0.12
F	71	-1.06	0.02	0.05	0.06	0.78	0.11	0.00	0.00	-0.21	-0.21	0.29	-0.07
F	72	0.47	0.03	0.14	0.24	0.50	0.12	0.00	0.00	-0.17	-0.07	0.34	-0.25
F	73	0.70	0.02	0.09	0.45	0.38	0.07	0.01	0.00	-0.11	0.17	-0.05	-0.11
F	74	-0.70	0.02	0.72	0.06	0.11	0.11	0.00	0.00	0.50	-0.24	-0.24	-0.29
F	75	-0.44	0.02	0.10	0.14	0.68	0.09	0.00	0.00	-0.12	-0.15	0.32	-0.21
F	76	0.92	0.02	0.28	0.21	0.41	0.10	0.00	0.00	-0.11	-0.22	0.41	-0.21
F	77	-0.21	0.02	0.05	0.21	0.11	0.63	0.00	0.00	-0.18	-0.33	-0.10	0.42

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	64	-0.25	0.02	0.07	0.08	0.21	0.64	0.00	0.00	-0.28	-0.32	-0.15	0.46
G	65	-0.11	0.02	0.09	0.25	0.04	0.61	0.00	0.00	-0.31	-0.37	-0.12	0.57
G	66	0.16	0.03	0.08	0.30	0.56	0.06	0.00	0.00	-0.28	-0.34	0.56	-0.18
G	67	-1.04	0.02	0.77	0.03	0.17	0.03	0.00	0.00	0.34	-0.20	-0.21	-0.15
G	68	1.07	0.02	0.33	0.14	0.38	0.15	0.00	0.00	-0.13	-0.21	0.42	-0.19
G	69	0.72	0.02	0.02	0.45	0.47	0.05	0.00	0.00	-0.18	0.36	-0.22	-0.18
G	70	-0.71	0.02	0.04	0.06	0.72	0.18	0.00	0.00	-0.19	-0.17	0.23	-0.07
G	71	0.04	0.02	0.58	0.14	0.18	0.10	0.01	0.00	0.41	-0.17	-0.25	-0.15
G	72	-0.19	0.03	0.03	0.22	0.12	0.63	0.00	0.00	-0.19	-0.40	-0.25	0.58
G	73	-1.89	0.02	0.07	0.02	0.04	0.88	0.00	0.00	-0.30	-0.18	-0.11	0.37
G	74	0.39	0.02	0.52	0.17	0.15	0.17	0.00	0.00	0.44	-0.18	-0.25	-0.17
G	75	-0.07	0.02	0.13	0.16	0.61	0.10	0.00	0.00	-0.11	-0.25	0.42	-0.25
G	76	0.00	0.02	0.08	0.23	0.59	0.10	0.00	0.00	-0.29	-0.32	0.49	-0.08
G	77	-0.32	0.02	0.03	0.19	0.65	0.12	0.00	0.00	-0.15	-0.19	0.35	-0.19
H	64	-1.56	0.02	0.84	0.07	0.04	0.05	0.00	0.00	0.41	-0.24	-0.21	-0.22
H	65	-0.96	0.02	0.76	0.11	0.05	0.08	0.00	0.00	0.43	-0.14	-0.19	-0.36
H	66	1.30	0.03	0.09	0.47	0.10	0.34	0.00	0.00	-0.14	-0.35	-0.10	0.51
H	67	-0.79	0.02	0.09	0.73	0.09	0.08	0.00	0.00	-0.23	0.46	-0.24	-0.24
H	68	-0.04	0.02	0.60	0.12	0.07	0.21	0.00	0.00	0.39	-0.35	-0.17	-0.09
H	69	-0.42	0.02	0.03	0.16	0.67	0.14	0.00	0.00	-0.23	-0.34	0.41	-0.08
H	70	0.79	0.02	0.14	0.24	0.18	0.44	0.01	0.00	-0.15	-0.17	-0.30	0.48
H	71	0.21	0.02	0.07	0.09	0.55	0.28	0.00	0.00	-0.22	-0.13	0.49	-0.32
H	72	0.69	0.03	0.22	0.46	0.17	0.16	0.00	0.00	-0.11	0.35	-0.13	-0.23
H	73	-0.14	0.02	0.12	0.62	0.11	0.15	0.00	0.00	-0.09	0.49	-0.26	-0.35
H	74	-0.57	0.02	0.10	0.08	0.70	0.12	0.00	0.00	-0.31	-0.20	0.53	-0.29
H	75	-0.94	0.02	0.76	0.07	0.15	0.03	0.00	0.00	0.42	-0.21	-0.28	-0.15
H	76	-0.62	0.02	0.08	0.71	0.13	0.08	0.00	0.00	-0.32	0.50	-0.22	-0.23
H	77	0.69	0.02	0.08	0.13	0.33	0.46	0.00	0.00	-0.23	-0.21	-0.01	0.28

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	64	-0.20	0.02	0.21	0.06	0.63	0.10	0.01	0.00	-0.28	-0.14	0.44	-0.22
I	65	-0.33	0.02	0.10	0.16	0.09	0.65	0.00	0.00	-0.34	-0.29	-0.26	0.60
I	66	0.33	0.03	0.09	0.53	0.12	0.27	0.00	0.00	-0.15	0.34	-0.16	-0.17
I	67	-0.75	0.02	0.10	0.14	0.04	0.73	0.00	0.00	-0.31	-0.22	-0.23	0.48
I	68	-0.47	0.02	0.14	0.08	0.10	0.68	0.00	0.00	-0.17	-0.28	-0.26	0.45
I	69	0.68	0.02	0.41	0.05	0.09	0.46	0.00	0.00	-0.20	-0.23	-0.27	0.45
I	70	0.54	0.02	0.06	0.49	0.23	0.23	0.00	0.00	-0.15	0.44	-0.26	-0.18
I	71	-0.03	0.02	0.07	0.18	0.14	0.60	0.00	0.00	-0.25	-0.24	-0.10	0.40
I	72	-1.12	0.03	0.05	0.07	0.78	0.10	0.00	0.00	-0.24	-0.29	0.48	-0.23
I	73	0.44	0.02	0.14	0.25	0.50	0.10	0.00	0.00	-0.20	-0.15	0.30	-0.04
I	74	-0.45	0.02	0.17	0.10	0.67	0.05	0.00	0.00	-0.21	-0.32	0.48	-0.22
I	75	-1.53	0.02	0.03	0.12	0.84	0.02	0.00	0.00	-0.23	-0.34	0.46	-0.15
I	76	-1.85	0.02	0.04	0.05	0.04	0.87	0.00	0.00	-0.26	-0.22	-0.20	0.42
I	77	0.30	0.02	0.53	0.23	0.17	0.07	0.00	0.00	0.48	-0.22	-0.23	-0.23
J	64	0.44	0.02	0.06	0.51	0.20	0.22	0.00	0.00	-0.17	0.51	-0.21	-0.30
J	65	1.08	0.02	0.38	0.27	0.17	0.17	0.01	0.00	0.32	0.02	-0.30	-0.14
J	66	0.30	0.03	0.29	0.53	0.10	0.07	0.00	0.00	-0.12	0.38	-0.21	-0.26
J	67	0.13	0.02	0.57	0.26	0.09	0.08	0.01	0.00	0.49	-0.28	-0.20	-0.22
J	68	-1.25	0.02	0.07	0.06	0.80	0.07	0.00	0.00	-0.23	-0.22	0.41	-0.20
J	69	0.13	0.02	0.07	0.57	0.26	0.09	0.01	0.00	-0.21	0.38	-0.16	-0.20
J	70	0.17	0.02	0.12	0.10	0.22	0.56	0.00	0.00	-0.14	-0.23	-0.31	0.50
J	71	-0.49	0.02	0.02	0.25	0.68	0.04	0.00	0.00	-0.19	-0.36	0.51	-0.26
J	72	0.18	0.03	0.14	0.14	0.16	0.56	0.01	0.00	-0.17	-0.22	-0.28	0.49
J	73	-1.59	0.02	0.03	0.85	0.05	0.07	0.00	0.00	-0.18	0.49	-0.25	-0.34
J	74	0.12	0.02	0.10	0.05	0.28	0.57	0.00	0.00	-0.25	-0.14	-0.16	0.37
J	75	-0.53	0.02	0.08	0.09	0.69	0.14	0.00	0.00	-0.22	-0.23	0.55	-0.36
J	76	0.67	0.02	0.16	0.20	0.17	0.46	0.00	0.00	-0.24	-0.22	-0.18	0.50
J	77	-1.51	0.02	0.02	0.11	0.84	0.04	0.00	0.00	-0.18	-0.33	0.48	-0.27

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	64	0.22	0.02	0.55	0.22	0.18	0.04	0.00	0.00	0.00	-0.03	0.10	-0.12
K	65	-0.27	0.02	0.08	0.64	0.17	0.10	0.01	0.00	-0.18	0.43	-0.25	-0.20
K	66	0.22	0.03	0.21	0.55	0.10	0.14	0.00	0.00	-0.38	0.39	-0.08	-0.05
K	67	-0.47	0.02	0.10	0.13	0.68	0.09	0.01	0.00	-0.25	-0.24	0.50	-0.26
K	68	0.15	0.02	0.21	0.19	0.56	0.04	0.00	0.00	-0.18	-0.12	0.31	-0.15
K	69	-0.20	0.02	0.12	0.13	0.63	0.12	0.00	0.00	-0.18	-0.29	0.47	-0.22
K	70	0.24	0.02	0.25	0.14	0.06	0.55	0.00	0.00	-0.20	-0.34	-0.23	0.52
K	71	-0.95	0.02	0.76	0.10	0.06	0.07	0.00	0.00	0.36	-0.21	-0.24	-0.11
K	72	-0.16	0.03	0.21	0.62	0.08	0.09	0.00	0.00	-0.20	0.38	-0.19	-0.17
K	73	-0.28	0.02	0.06	0.19	0.65	0.09	0.01	0.00	-0.17	-0.22	0.35	-0.12
K	74	-0.31	0.02	0.28	0.65	0.05	0.03	0.00	0.00	-0.37	0.48	-0.22	-0.10
K	75	0.77	0.02	0.27	0.09	0.19	0.44	0.01	0.00	-0.03	-0.19	-0.19	0.29
K	76	-1.08	0.02	0.11	0.06	0.05	0.78	0.00	0.00	-0.27	-0.25	-0.22	0.46
K	77	-0.60	0.02	0.04	0.71	0.20	0.05	0.00	0.00	-0.13	0.55	-0.43	-0.24
L	64	-0.93	0.02	0.04	0.09	0.76	0.11	0.00	0.00	-0.23	-0.31	0.54	-0.31
L	65	0.84	0.02	0.43	0.33	0.16	0.08	0.01	0.00	0.35	-0.16	-0.14	-0.18
L	66	0.53	0.03	0.25	0.12	0.14	0.49	0.00	0.00	-0.27	-0.18	-0.19	0.48
L	67	-0.03	0.02	0.60	0.10	0.26	0.04	0.00	0.00	0.59	-0.14	-0.46	-0.20
L	68	-0.79	0.02	0.09	0.07	0.73	0.10	0.00	0.00	-0.26	-0.20	0.44	-0.23
L	69	-0.38	0.02	0.07	0.66	0.21	0.06	0.00	0.00	-0.22	0.40	-0.18	-0.26
L	70	-0.97	0.02	0.13	0.05	0.05	0.76	0.00	0.00	-0.20	-0.19	-0.18	0.35
L	71	-0.91	0.02	0.75	0.13	0.09	0.02	0.00	0.00	0.52	-0.33	-0.28	-0.18
L	72	-0.77	0.03	0.07	0.18	0.73	0.03	0.00	0.00	-0.26	-0.36	0.52	-0.17
L	73	0.94	0.02	0.35	0.11	0.14	0.41	0.00	0.00	-0.30	-0.15	-0.18	0.52
L	74	-1.05	0.02	0.07	0.77	0.07	0.08	0.00	0.00	-0.27	0.48	-0.31	-0.18
L	75	-0.18	0.02	0.63	0.13	0.17	0.07	0.01	0.00	0.41	-0.18	-0.25	-0.17
L	76	0.59	0.02	0.25	0.48	0.16	0.12	0.00	0.00	-0.20	0.40	-0.17	-0.16
L	77	-0.16	0.02	0.10	0.15	0.12	0.62	0.00	0.00	-0.23	-0.32	-0.24	0.54

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	1	-2.06	0.03	0.01	0.89	0.02	0.08	0.00	0.00	-0.05	0.25	-0.14	-0.20
W	2	-1.16	0.03	0.11	0.78	0.05	0.06	0.00	0.00	-0.32	0.49	-0.13	-0.31
W	3	-1.27	0.03	0.07	0.81	0.09	0.04	0.00	0.00	-0.20	0.49	-0.31	-0.28
W	4	-0.28	0.02	0.14	0.64	0.11	0.11	0.00	0.00	-0.17	0.32	-0.20	-0.09
W	5	-0.08	0.02	0.13	0.24	0.60	0.02	0.00	0.00	-0.22	-0.46	0.59	-0.10
W	6	0.07	0.02	0.02	0.57	0.03	0.38	0.00	0.00	-0.14	0.38	-0.21	-0.27
W	7	-0.89	0.02	0.07	0.75	0.09	0.10	0.00	0.00	-0.24	0.48	-0.35	-0.16
W	8	-1.20	0.03	0.17	0.79	0.03	0.00	0.00	0.00	-0.41	0.46	-0.15	-0.07
W	9	-1.50	0.03	0.09	0.84	0.05	0.02	0.00	0.00	-0.21	0.37	-0.22	-0.17
W	10	-0.58	0.02	0.09	0.08	0.13	0.69	0.00	0.00	-0.23	-0.25	-0.24	0.47
W	11	-0.89	0.02	0.08	0.10	0.75	0.08	0.00	0.00	-0.25	-0.22	0.45	-0.23
W	12	-0.19	0.02	0.14	0.17	0.06	0.62	0.00	0.00	-0.22	-0.43	-0.21	0.60
W	13	-0.65	0.02	0.71	0.06	0.15	0.08	0.00	0.00	0.60	-0.28	-0.38	-0.25
W	14	0.03	0.02	0.58	0.16	0.23	0.03	0.00	0.00	0.33	-0.04	-0.30	-0.12
W	15	0.16	0.02	0.09	0.23	0.56	0.12	0.01	0.00	-0.15	-0.15	0.32	-0.15
W	16	0.15	0.02	0.17	0.18	0.56	0.09	0.00	0.00	-0.40	-0.22	0.52	-0.06
W	17	-0.32	0.02	0.09	0.14	0.12	0.65	0.00	0.00	-0.18	-0.26	-0.27	0.49
W	18	-0.41	0.02	0.18	0.67	0.09	0.06	0.00	0.00	-0.18	0.40	-0.27	-0.17
W	19	0.11	0.02	0.11	0.13	0.20	0.57	0.00	0.00	-0.12	-0.31	-0.26	0.50
W	20	0.99	0.02	0.19	0.21	0.21	0.39	0.01	0.00	-0.10	-0.12	-0.15	0.32
W	21	0.25	0.02	0.24	0.14	0.08	0.54	0.00	0.00	-0.17	-0.32	-0.15	0.45
W	22	-0.91	0.02	0.05	0.75	0.14	0.06	0.00	0.00	-0.21	0.41	-0.24	-0.19
W	23	0.53	0.02	0.18	0.19	0.47	0.15	0.00	0.00	-0.05	-0.19	0.30	-0.14
W	24	-0.03	0.02	0.17	0.10	0.68	0.05	0.00	0.00	-0.22	-0.16	0.37	-0.17
W	131	-0.21	0.02	0.18	0.60	0.05	0.17	0.00	0.00	-0.19	0.46	-0.19	-0.28
W	132	-1.51	0.02	0.23	0.05	0.09	0.63	0.00	0.00	0.00	-0.31	-0.32	0.33
W	133	-0.36	0.03	0.03	0.05	0.83	0.09	0.00	0.00	-0.19	-0.22	0.43	-0.28
W	134	0.77	0.02	0.65	0.18	0.07	0.10	0.00	0.00	0.55	-0.39	-0.29	-0.14
W	135	-0.66	0.02	0.12	0.33	0.41	0.13	0.00	0.00	-0.26	-0.33	0.42	0.10
W	136	0.37	0.02	0.12	0.07	0.72	0.09	0.00	0.00	-0.13	-0.23	0.31	-0.14
W	137	-1.20	0.02	0.35	0.05	0.09	0.51	0.00	0.00	-0.21	-0.21	-0.21	0.41
W	138	-1.73	0.03	0.79	0.07	0.11	0.02	0.00	0.00	0.44	-0.26	-0.27	-0.18
W	139	-0.96	0.03	0.07	0.86	0.06	0.02	0.00	0.00	-0.29	0.37	-0.16	-0.16
W	140	0.02	0.02	0.08	0.11	0.06	0.75	0.00	0.00	-0.27	-0.25	-0.25	0.48
W	141	-0.65	0.02	0.58	0.27	0.09	0.06	0.00	0.00	0.40	-0.15	-0.30	-0.18
W	142	1.05	0.02	0.70	0.07	0.08	0.14	0.00	0.00	0.55	-0.31	-0.25	-0.30

**Appendix C: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Logit	SEC	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	143	-0.66	0.02	0.16	0.26	0.19	0.38	0.01	0.00	-0.35	-0.22	-0.14	0.58
W	144	-0.04	0.02	0.16	0.06	0.70	0.07	0.00	0.00	-0.21	-0.21	0.43	-0.27
W	145	-0.05	0.02	0.15	0.11	0.60	0.15	0.00	0.00	-0.20	-0.15	0.34	-0.14
W	146	-0.44	0.02	0.07	0.30	0.60	0.03	0.00	0.00	-0.25	-0.27	0.44	-0.15
W	147	0.45	0.02	0.10	0.06	0.16	0.67	0.00	0.00	-0.19	-0.19	-0.35	0.50
W	148	-0.06	0.02	0.10	0.50	0.14	0.26	0.00	0.00	-0.22	0.31	-0.16	-0.07
W	149	0.30	0.02	0.60	0.16	0.18	0.06	0.00	0.00	0.33	-0.19	-0.10	-0.21
W	150	-0.67	0.02	0.54	0.32	0.05	0.09	0.00	0.00	0.53	-0.30	-0.31	-0.20
W	151	-1.04	0.02	0.09	0.13	0.71	0.07	0.00	0.00	-0.25	-0.26	0.42	-0.11
W	152	-0.33	0.02	0.05	0.06	0.12	0.77	0.00	0.00	-0.17	-0.24	-0.27	0.44
W	153	0.59	0.02	0.64	0.23	0.07	0.05	0.01	0.00	0.48	-0.28	-0.26	-0.23
W	154	-0.94	0.02	0.10	0.13	0.27	0.49	0.00	0.00	-0.24	-0.28	-0.07	0.40
W	156	-0.06	0.02	0.13	0.11	0.75	0.01	0.00	0.00	-0.05	-0.03	0.09	-0.11
W	157	0.10	0.02	0.13	0.10	0.12	0.65	0.00	0.00	0.00	-0.18	-0.21	0.26
W	158	-0.33	0.02	0.19	0.57	0.16	0.08	0.00	0.00	-0.33	0.53	-0.20	-0.23
W	159	-0.80	0.02	0.10	0.64	0.17	0.09	0.00	0.00	-0.23	0.59	-0.31	-0.34
W	160	0.04	0.02	0.74	0.07	0.17	0.02	0.00	0.00	0.47	-0.24	-0.31	-0.19
W	161	-0.83	0.02	0.22	0.58	0.18	0.02	0.00	0.00	-0.11	0.26	-0.16	-0.16
W	162	-0.03	0.02	0.73	0.14	0.10	0.03	0.00	0.00	0.37	-0.23	-0.18	-0.18
W	163	-1.12	0.02	0.59	0.21	0.11	0.09	0.00	0.00	0.47	-0.19	-0.22	-0.29
W	164	0.18	0.03	0.09	0.80	0.06	0.06	0.00	0.00	-0.22	0.43	-0.28	-0.21
W	165	0.02	0.02	0.06	0.55	0.31	0.08	0.00	0.00	-0.26	0.45	-0.26	-0.14
W	166	0.04	0.02	0.58	0.15	0.07	0.20	0.00	0.00	0.49	-0.26	-0.24	-0.23
W	167	-0.68	0.02	0.58	0.16	0.13	0.13	0.00	0.00	0.45	-0.22	-0.22	-0.21
W	168	0.26	0.02	0.08	0.71	0.17	0.04	0.00	0.00	-0.17	0.42	-0.29	-0.19
W	169	-0.11	0.02	0.10	0.19	0.17	0.54	0.00	0.00	-0.19	-0.27	-0.17	0.46
W	170	1.10	0.02	0.20	0.60	0.12	0.07	0.00	0.00	-0.26	0.43	-0.16	-0.20
W	171	-0.14	0.02	0.38	0.39	0.09	0.14	0.00	0.00	0.30	-0.16	-0.21	-0.01
W	172	-0.75	0.02	0.13	0.09	0.17	0.60	0.00	0.00	-0.15	-0.27	-0.29	0.49
W	173	-0.58	0.02	0.72	0.11	0.08	0.10	0.00	0.00	0.46	-0.28	-0.23	-0.19
W	174	0.89	0.02	0.10	0.11	0.10	0.69	0.00	0.00	-0.11	-0.29	-0.23	0.42
W	175	-0.28	0.02	0.23	0.17	0.20	0.39	0.00	0.00	-0.16	-0.23	-0.26	0.53
W	176	-0.86	0.02	0.10	0.13	0.64	0.13	0.00	0.00	-0.26	-0.25	0.55	-0.29
W	177	0.00	0.02	0.10	0.74	0.12	0.05	0.01	0.00	-0.23	0.44	-0.25	-0.21



**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	67	B	-2.39	0.58	0.89	0.20	0.02	0.892 *	0.02	0.07	0.00	0.00	-0.10	0.204 *	-0.09	-0.14
A	68	C	-1.42	-0.34	0.78	0.53	0.12	0.07	0.781 *	0.03	0.00	0.00	-0.39	-0.28	0.533 *	-0.13
A	69	C	-0.95	0.45	0.71	0.56	0.17	0.09	0.705 *	0.03	0.01	0.00	-0.42	-0.25	0.558 *	-0.14
A	70	C	0.19	0.46	0.49	0.35	0.12	0.25	0.486 *	0.13	0.01	0.00	-0.14	-0.21	0.354 *	-0.12
A	71	A	0.22	-0.13	0.48	0.47	0.482 *	0.24	0.19	0.08	0.01	0.00	0.471 *	-0.32	-0.10	-0.21
A	72	A	-1.33	-0.04	0.76	0.32	0.764 *	0.02	0.13	0.08	0.00	0.00	0.319 *	-0.15	-0.23	-0.12
A	73	B	-1.66	-0.01	0.04	-0.19	0.07	0.039 *	0.06	0.817 ?	0.01	0.00	-0.20	-0.193 *	-0.23	0.390 ?
A	74	C	0.09	-0.11	0.09	-0.24	0.508 ?	0.17	0.094 *	0.22	0.01	0.00	0.298 ?	-0.24	-0.244 *	0.041 ?
A	75	D	-1.60	3.24	0.81	0.41	0.04	0.04	0.10	0.806 *	0.01	0.00	-0.25	-0.23	-0.19	0.408 *
A	76	D	4.78	0.00	0.05	0.23	0.10	0.43	0.34	0.050 *	0.08	0.00	-0.27	-0.12	0.370 ?	0.227 *
A	77	A	-2.39	0.00	0.02	-0.10	0.016 *	0.892 ?	0.02	0.07	0.00	0.00	-0.102 *	0.204 ?	-0.09	-0.14
A	78	B	-1.42	0.00	0.07	-0.28	0.12	0.066 *	0.781 ?	0.03	0.00	0.00	-0.39	-0.281 *	0.533 ?	-0.13
A	79	C	-0.95	0.00	0.71	0.56	0.17	0.09	0.705 *	0.03	0.01	0.00	-0.42	-0.25	0.558 *	-0.14
A	80	D	0.19	0.00	0.13	-0.12	0.12	0.25	0.49	0.129 *	0.01	0.00	-0.14	-0.21	0.354 ?	-0.122 *
A	81	D	0.22	0.00	0.08	-0.21	0.48	0.24	0.19	0.082 *	0.01	0.00	0.471 ?	-0.32	-0.10	-0.209 *
B	67	A	-1.47	0.58	0.79	0.45	0.790 *	0.08	0.08	0.04	0.01	0.00	0.446 *	-0.23	-0.27	-0.20
B	68	A	-0.30	-0.34	0.58	0.49	0.584 *	0.15	0.15	0.11	0.01	0.00	0.487 *	-0.25	-0.25	-0.19
B	69	D	-0.17	0.45	0.56	0.27	0.19	0.10	0.15	0.557 *	0.01	0.00	0.045 ?	-0.21	-0.24	0.274 *
B	70	D	-0.84	0.46	0.69	0.45	0.17	0.11	0.03	0.686 *	0.00	0.00	-0.32	-0.16	-0.21	0.453 *
B	71	B	-0.43	-0.13	0.61	0.51	0.15	0.610 *	0.14	0.10	0.01	0.00	-0.24	0.506 *	-0.22	-0.27
B	72	B	0.43	-0.04	0.44	0.43	0.08	0.440 *	0.33	0.15	0.01	0.00	-0.18	0.433 *	-0.22	-0.16
B	73	D	-1.64	-0.01	0.82	0.35	0.08	0.04	0.06	0.815 *	0.01	0.00	-0.16	-0.18	-0.20	0.348 *
B	74	B	0.16	-0.11	0.18	-0.24	0.49	0.176 *	0.10	0.22	0.01	0.00	0.301 ?	-0.241 *	-0.25	0.062 ?
B	75	B	-1.64	3.24	0.04	-0.18	0.04	0.039 *	0.09	0.813 ?	0.01	0.00	-0.22	-0.180 *	-0.19	0.374 ?
B	76	D	4.78	0.00	0.04	0.22	0.11	0.44	0.34	0.043 *	0.07	0.00	-0.28	-0.12	0.352 ?	0.224 *
B	77	A	-1.47	0.00	0.79	0.45	0.790 *	0.08	0.08	0.04	0.01	0.00	0.446 *	-0.23	-0.27	-0.20
B	78	C	-0.30	0.00	0.15	-0.25	0.584 ?	0.15	0.147 *	0.11	0.01	0.00	0.487 ?	-0.25	-0.245 *	-0.19
B	79	B	-0.17	0.00	0.10	-0.21	0.19	0.100 *	0.15	0.557 ?	0.01	0.00	0.045 ?	-0.212 *	-0.24	0.274 ?
B	80	D	-0.84	0.00	0.69	0.45	0.17	0.11	0.03	0.686 *	0.00	0.00	-0.32	-0.16	-0.21	0.453 *
B	81	C	-0.43	0.00	0.14	-0.22	0.15	0.610 ?	0.136 *	0.10	0.01	0.00	-0.24	0.506 ?	-0.223 *	-0.27

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	68	A	-2.27	-0.34	0.89	0.30	0.886 *	0.06	0.04	0.01	0.00	0.00	0.297 *	-0.17	-0.20	-0.12
C	69	A	0.03	0.45	0.52	0.49	0.519 *	0.29	0.10	0.08	0.01	0.00	0.486 *	-0.26	-0.23	-0.19
C	70	C	0.24	0.46	0.48	0.35	0.16	0.25	0.476 *	0.10	0.01	0.00	-0.19	-0.12	0.349 *	-0.17
C	71	B	0.54	-0.13	0.41	-0.10	0.03	0.411 *	0.06	0.49	0.00	0.00	-0.16	-0.100 *	-0.08	0.202 ?
C	72	A	-1.05	-0.04	0.73	0.39	0.726 *	0.13	0.07	0.06	0.00	0.00	0.392 *	-0.22	-0.19	-0.20
C	73	B	-1.62	-0.01	0.04	-0.17	0.07	0.040 *	0.06	0.814 ?	0.01	0.00	-0.20	-0.171 *	-0.20	0.363 ?
C	74	D	0.07	-0.11	0.23	0.07	0.511 ?	0.16	0.10	0.225 *	0.01	0.00	0.290 ?	-0.26	-0.24	0.071 *
C	75	D	-1.56	3.24	0.81	0.39	0.04	0.04	0.10	0.806 *	0.01	0.00	-0.22	-0.19	-0.20	0.388 *
C	76	D	4.78	0.00	0.04	0.22	0.12	0.43	0.34	0.044 *	0.07	0.00	-0.29	-0.10	0.358 ?	0.224 *
C	77	C	-2.83	0.00	0.93	0.30	0.01	0.03	0.931 *	0.03	0.00	0.00	-0.13	-0.20	0.304 *	-0.18
C	78	D	-2.27	0.00	0.01	-0.12	0.886 ?	0.06	0.04	0.011 *	0.00	0.00	0.297 ?	-0.17	-0.20	-0.119 *
C	79	D	0.03	0.00	0.08	-0.19	0.519 ?	0.29	0.10	0.080 *	0.01	0.00	0.486 ?	-0.26	-0.23	-0.193 *
C	80	A	0.24	0.00	0.16	-0.19	0.160 *	0.25	0.48	0.10	0.01	0.00	-0.188 *	-0.12	0.349 ?	-0.17
C	81	A	0.54	0.00	0.03	-0.16	0.034 *	0.41	0.06	0.49	0.00	0.00	-0.160 *	-0.10	-0.08	0.202 ?
D	68	A	-0.33	-0.34	0.59	0.44	0.589 *	0.22	0.13	0.05	0.01	0.00	0.436 *	-0.31	-0.16	-0.13
D	69	C	0.17	0.45	0.49	0.45	0.33	0.14	0.489 *	0.03	0.01	0.00	-0.37	-0.11	0.445 *	-0.07
D	70	B	-0.52	0.46	0.63	0.48	0.18	0.627 *	0.13	0.05	0.01	0.00	-0.29	0.480 *	-0.19	-0.23
D	71	B	-0.37	-0.13	0.60	0.61	0.12	0.596 *	0.11	0.16	0.01	0.00	-0.17	0.610 *	-0.36	-0.34
D	72	C	-0.35	-0.04	0.59	0.45	0.14	0.11	0.591 *	0.15	0.02	0.00	-0.22	-0.23	0.448 *	-0.19
D	73	B	-1.63	-0.01	0.04	-0.18	0.08	0.039 *	0.06	0.809 ?	0.01	0.00	-0.18	-0.184 *	-0.20	0.359 ?
D	74	B	0.16	-0.11	0.18	-0.26	0.49	0.181 *	0.10	0.22	0.01	0.00	0.294 ?	-0.257 *	-0.25	0.078 ?
D	75	C	-1.68	3.24	0.09	-0.20	0.04	0.04	0.087 *	0.817 ?	0.01	0.00	-0.23	-0.20	-0.202 *	0.392 ?
D	76	B	4.79	0.00	0.44	-0.10	0.11	0.435 *	0.34	0.04	0.07	0.00	-0.28	-0.104 *	0.353 ?	0.227 ?
D	77	A	-1.25	0.00	0.06	-0.21	0.062 *	0.12	0.06	0.753 ?	0.00	0.00	-0.214 *	-0.25	-0.18	0.416 ?
D	78	B	-0.33	0.00	0.22	-0.31	0.589 ?	0.217 *	0.13	0.05	0.01	0.00	0.436 ?	-0.305 *	-0.16	-0.13
D	79	A	0.17	0.00	0.33	-0.37	0.325 *	0.14	0.49	0.03	0.01	0.00	-0.366 *	-0.11	0.445 ?	-0.07
D	80	C	-0.52	0.00	0.13	-0.19	0.18	0.627 ?	0.134 *	0.05	0.01	0.00	-0.29	0.480 ?	-0.190 *	-0.23
D	81	D	-0.37	0.00	0.16	-0.34	0.12	0.596 ?	0.11	0.159 *	0.01	0.00	-0.17	0.610 ?	-0.36	-0.341 *

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	68	B	-1.41	-0.34	0.78	0.43	0.05	0.780 *	0.14	0.03	0.00	0.00	-0.23	0.426 *	-0.25	-0.21
E	69	B	-0.89	0.45	0.70	0.50	0.09	0.695 *	0.06	0.15	0.00	0.00	-0.16	0.500 *	-0.22	-0.36
E	70	D	-0.38	0.46	0.60	0.55	0.19	0.10	0.10	0.601 *	0.01	0.00	-0.23	-0.34	-0.24	0.545 *
E	71	A	-0.09	-0.13	0.55	0.51	0.546 *	0.05	0.30	0.09	0.01	0.00	0.512 *	-0.16	-0.36	-0.17
E	72	A	-0.72	-0.04	0.67	0.48	0.667 *	0.26	0.02	0.05	0.00	0.00	0.480 *	-0.35	-0.18	-0.21
E	73	B	-1.72	-0.01	0.04	-0.18	0.07	0.039 *	0.06	0.825 ?	0.01	0.00	-0.18	-0.181 *	-0.22	0.359 ?
E	74	D	0.08	-0.11	0.20	0.05	0.510 ?	0.18	0.10	0.202 *	0.01	0.00	0.316 ?	-0.25	-0.25	0.052 *
E	75	C	-1.73	3.24	0.09	-0.21	0.03	0.04	0.090 *	0.827 ?	0.01	0.00	-0.21	-0.21	-0.208 *	0.387 ?
E	76	B	4.71	0.00	0.43	-0.11	0.10	0.431 *	0.35	0.04	0.07	0.00	-0.27	-0.107 *	0.369 ?	0.207 ?
E	77	C	-2.37	0.00	0.89	0.14	0.01	0.09	0.891 *	0.01	0.00	0.00	-0.12	-0.07	0.143 *	-0.12
E	78	D	-1.41	0.00	0.03	-0.21	0.05	0.780 ?	0.14	0.032 *	0.00	0.00	-0.23	0.426 ?	-0.25	-0.209 *
E	79	B	-0.89	0.00	0.70	0.50	0.09	0.695 *	0.06	0.15	0.00	0.00	-0.16	0.500 *	-0.22	-0.36
E	80	B	-0.38	0.00	0.10	-0.34	0.19	0.099 *	0.10	0.601 ?	0.01	0.00	-0.23	-0.338 *	-0.24	0.545 ?
E	81	B	-0.09	0.00	0.05	-0.16	0.546 ?	0.049 *	0.30	0.09	0.01	0.00	0.512 ?	-0.157 *	-0.36	-0.17
F	68	A	-0.84	-0.34	0.69	0.60	0.688 *	0.08	0.13	0.08	0.01	0.00	0.604 *	-0.30	-0.38	-0.22
F	69	A	-1.40	0.45	0.78	0.44	0.778 *	0.05	0.07	0.10	0.01	0.00	0.443 *	-0.19	-0.27	-0.24
F	70	D	0.24	0.46	0.48	0.29	0.04	0.07	0.41	0.478 *	0.00	0.00	-0.18	-0.18	-0.13	0.292 *
F	71	C	-0.64	-0.13	0.65	0.57	0.14	0.15	0.650 *	0.05	0.01	0.00	-0.32	-0.31	0.567 *	-0.19
F	72	B	-0.43	-0.04	0.61	0.23	0.14	0.611 *	0.09	0.16	0.01	0.00	0.008 ?	0.229 *	-0.23	-0.13
F	73	D	-1.66	-0.01	0.82	0.35	0.07	0.04	0.06	0.818 *	0.01	0.00	-0.17	-0.18	-0.20	0.353 *
F	74	C	0.13	-0.11	0.10	-0.24	0.50	0.18	0.100 *	0.21	0.01	0.00	0.295 ?	-0.24	-0.240 *	0.063 ?
F	75	B	-1.69	3.24	0.04	-0.19	0.04	0.040 *	0.09	0.821 ?	0.01	0.00	-0.22	-0.194 *	-0.21	0.395 ?
F	76	B	4.74	0.00	0.44	-0.12	0.10	0.441 *	0.34	0.04	0.07	0.00	-0.27	-0.118 *	0.364 ?	0.210 ?
F	77	B	-3.06	0.00	0.01	-0.12	0.940 ?	0.013 *	0.04	0.01	0.00	0.00	0.252 ?	-0.116 *	-0.17	-0.13
F	78	D	-0.84	0.00	0.08	-0.22	0.688 ?	0.08	0.13	0.084 *	0.01	0.00	0.604 ?	-0.30	-0.38	-0.223 *
F	79	B	-1.40	0.00	0.05	-0.19	0.778 ?	0.052 *	0.07	0.10	0.01	0.00	0.443 ?	-0.187 *	-0.27	-0.24
F	80	C	0.24	0.00	0.41	-0.13	0.04	0.07	0.412 *	0.48	0.00	0.00	-0.18	-0.18	-0.130 *	0.292 ?
F	81	A	-0.64	0.00	0.14	-0.32	0.143 *	0.15	0.650 ?	0.05	0.01	0.00	-0.322 *	-0.31	0.567 ?	-0.19

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	68	A	-1.20	-0.34	0.74	0.44	0.743 *	0.11	0.05	0.10	0.01	0.00	0.436 *	-0.36	-0.20	-0.11
G	69	D	-1.67	0.45	0.82	0.48	0.06	0.04	0.08	0.816 *	0.00	0.00	-0.23	-0.21	-0.33	0.484 *
G	70	C	-0.34	0.46	0.59	0.44	0.19	0.08	0.591 *	0.13	0.01	0.00	-0.38	-0.22	0.440 *	-0.01
G	71	C	-0.39	-0.13	0.60	0.58	0.06	0.31	0.602 *	0.02	0.01	0.00	-0.18	-0.48	0.577 *	-0.10
G	72	D	-0.64	-0.04	0.65	0.52	0.03	0.09	0.23	0.649 *	0.00	0.00	-0.18	-0.32	-0.29	0.519 *
G	73	D	-1.65	-0.01	0.82	0.35	0.07	0.04	0.06	0.815 *	0.01	0.00	-0.19	-0.18	-0.19	0.352 *
G	74	C	-0.06	-0.11	0.10	-0.26	0.538 ?	0.15	0.101 *	0.20	0.01	0.00	0.344 ?	-0.26	-0.260 *	0.023 ?
G	75	D	-1.66	3.24	0.82	0.38	0.04	0.04	0.09	0.815 *	0.01	0.00	-0.22	-0.21	-0.19	0.384 *
G	76	A	4.76	0.00	0.11	-0.28	0.106 *	0.43	0.35	0.05	0.07	0.00	-0.282 *	-0.11	0.350 ?	0.224 ?
G	77	A	-1.22	0.00	0.09	-0.24	0.093 *	0.750 ?	0.09	0.06	0.00	0.00	-0.238 *	0.380 ?	-0.14	-0.22
G	78	A	-1.20	0.00	0.74	0.44	0.743 *	0.11	0.05	0.10	0.01	0.00	0.436 *	-0.36	-0.20	-0.11
G	79	B	-1.67	0.00	0.04	-0.21	0.06	0.036 *	0.08	0.816 ?	0.00	0.00	-0.23	-0.211 *	-0.33	0.484 ?
G	80	B	-0.34	0.00	0.08	-0.22	0.19	0.080 *	0.591 ?	0.13	0.01	0.00	-0.38	-0.215 *	0.440 ?	-0.01
G	81	D	-0.39	0.00	0.02	-0.10	0.06	0.31	0.602 ?	0.023 *	0.01	0.00	-0.18	-0.48	0.577 ?	-0.096 *
H	68	A	-0.97	-0.34	0.71	0.30	0.711 *	0.06	0.23	0.01	0.00	0.00	0.300 *	-0.31	-0.14	-0.09
H	69	D	-0.46	0.45	0.62	0.36	0.11	0.12	0.14	0.617 *	0.02	0.00	-0.29	-0.05	-0.20	0.360 *
H	70	C	-0.76	0.46	0.67	0.42	0.06	0.16	0.673 *	0.11	0.01	0.00	-0.15	-0.22	0.419 *	-0.25
H	71	B	-0.66	-0.13	0.66	0.51	0.19	0.658 *	0.12	0.03	0.00	0.00	-0.31	0.508 *	-0.26	-0.19
H	72	B	-0.52	-0.04	0.63	0.30	0.11	0.630 *	0.09	0.16	0.01	0.00	-0.16	0.298 *	-0.18	-0.11
H	73	A	-1.62	-0.01	0.08	-0.20	0.081 *	0.04	0.06	0.815 ?	0.01	0.00	-0.199 *	-0.17	-0.21	0.364 ?
H	74	D	0.17	-0.11	0.23	0.07	0.49	0.18	0.10	0.226 *	0.01	0.00	0.288 ?	-0.25	-0.24	0.074 *
H	75	C	-1.62	3.24	0.10	-0.22	0.04	0.04	0.095 *	0.814 ?	0.01	0.00	-0.21	-0.20	-0.216 *	0.395 ?
H	76	C	4.74	0.00	0.35	0.37	0.10	0.44	0.345 *	0.04	0.07	0.00	-0.28	-0.11	0.366 *	0.203 ?
H	77	B	-2.59	0.00	0.03	-0.17	0.911 ?	0.033 *	0.02	0.03	0.00	0.00	0.314 ?	-0.168 *	-0.19	-0.16
H	78	B	-0.97	0.00	0.06	-0.31	0.711 ?	0.055 *	0.23	0.01	0.00	0.00	0.300 ?	-0.313 *	-0.14	-0.09
H	79	B	-0.46	0.00	0.12	-0.05	0.11	0.115 *	0.14	0.617 ?	0.02	0.00	-0.29	-0.049 *	-0.20	0.360 ?
H	80	C	-0.76	0.00	0.67	0.42	0.06	0.16	0.673 *	0.11	0.01	0.00	-0.15	-0.22	0.419 *	-0.25
H	81	A	-0.66	0.00	0.19	-0.31	0.188 *	0.658 ?	0.12	0.03	0.00	0.00	-0.311 *	0.508 ?	-0.26	-0.19

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	68	B	-1.49	-0.34	0.79	0.32	0.05	0.789 *	0.04	0.12	0.00	0.00	-0.23	0.317 *	-0.21	-0.11
I	69	B	-1.56	0.45	0.80	0.48	0.12	0.800 *	0.06	0.02	0.00	0.00	-0.35	0.476 *	-0.25	-0.13
I	70	D	-0.66	0.46	0.66	0.49	0.11	0.09	0.14	0.655 *	0.00	0.00	-0.28	-0.18	-0.26	0.487 *
I	71	A	-1.02	-0.13	0.72	0.49	0.715 *	0.10	0.13	0.05	0.01	0.00	0.493 *	-0.31	-0.27	-0.16
I	72	D	-0.72	-0.04	0.66	0.52	0.02	0.08	0.23	0.664 *	0.00	0.00	-0.18	-0.32	-0.31	0.523 *
I	73	C	-1.64	-0.01	0.06	-0.22	0.08	0.04	0.062 *	0.813 ?	0.01	0.00	-0.18	-0.17	-0.218 *	0.365 ?
I	74	B	0.16	-0.11	0.18	-0.25	0.50	0.175 *	0.11	0.22	0.01	0.00	0.316 ?	-0.252 *	-0.26	0.065 ?
I	75	C	-1.61	3.24	0.10	-0.20	0.04	0.04	0.096 *	0.810 ?	0.01	0.00	-0.22	-0.22	-0.201 *	0.400 ?
I	76	B	4.69	0.00	0.44	-0.12	0.11	0.439 *	0.34	0.05	0.07	0.00	-0.28	-0.116 *	0.383 ?	0.213 ?
I	77	B	-1.16	0.00	0.13	-0.24	0.07	0.128 *	0.741 ?	0.05	0.01	0.00	-0.27	-0.235 *	0.479 ?	-0.26
I	78	B	-1.49	0.00	0.79	0.32	0.05	0.789 *	0.04	0.12	0.00	0.00	-0.23	0.317 *	-0.21	-0.11
I	79	D	-1.56	0.00	0.02	-0.13	0.12	0.800 ?	0.06	0.016 *	0.00	0.00	-0.35	0.476 ?	-0.25	-0.128 *
I	80	C	-0.66	0.00	0.14	-0.26	0.11	0.09	0.141 *	0.655 ?	0.00	0.00	-0.28	-0.18	-0.257 *	0.487 ?
I	81	D	-1.02	0.00	0.05	-0.16	0.715 ?	0.10	0.13	0.045 *	0.01	0.00	0.493 ?	-0.31	-0.27	-0.156 *
J	68	B	-1.21	-0.34	0.75	0.47	0.13	0.749 *	0.09	0.03	0.01	0.00	-0.37	0.465 *	-0.23	-0.06
J	69	C	-0.74	0.45	0.67	0.40	0.04	0.25	0.668 *	0.04	0.00	0.00	-0.23	-0.25	0.401 *	-0.17
J	70	C	-0.58	0.46	0.64	0.55	0.31	0.02	0.640 *	0.02	0.00	0.00	-0.47	-0.14	0.551 *	-0.14
J	71	D	-0.32	-0.13	0.59	0.48	0.17	0.06	0.18	0.588 *	0.01	0.00	-0.17	-0.23	-0.30	0.481 *
J	72	D	-1.36	-0.04	0.77	0.45	0.09	0.05	0.08	0.773 *	0.00	0.00	-0.24	-0.22	-0.25	0.453 *
J	73	C	-1.70	-0.01	0.06	-0.21	0.07	0.04	0.061 *	0.822 ?	0.01	0.00	-0.19	-0.18	-0.214 *	0.370 ?
J	74	B	0.07	-0.11	0.17	-0.26	0.513 ?	0.168 *	0.10	0.22	0.01	0.00	0.292 ?	-0.258 *	-0.25	0.077 ?
J	75	C	-1.66	3.24	0.09	-0.19	0.04	0.04	0.093 *	0.816 ?	0.01	0.00	-0.23	-0.19	-0.194 *	0.383 ?
J	76	D	4.77	0.00	0.05	0.20	0.10	0.44	0.34	0.045 *	0.07	0.00	-0.27	-0.11	0.357 ?	0.204 *
J	77	A	-0.73	0.00	0.12	-0.36	0.115 *	0.07	0.14	0.668 ?	0.00	0.00	-0.355 *	-0.14	-0.11	0.406 ?
J	78	A	-1.21	0.00	0.13	-0.37	0.130 *	0.749 ?	0.09	0.03	0.01	0.00	-0.366 *	0.465 ?	-0.23	-0.06
J	79	C	-0.74	0.00	0.67	0.40	0.04	0.25	0.668 *	0.04	0.00	0.00	-0.23	-0.25	0.401 *	-0.17
J	80	D	-0.58	0.00	0.02	-0.14	0.31	0.02	0.640 ?	0.023 *	0.00	0.00	-0.47	-0.14	0.551 ?	-0.140 *
J	81	C	-0.32	0.00	0.18	-0.30	0.17	0.06	0.176 *	0.588 ?	0.01	0.00	-0.17	-0.23	-0.299 *	0.481 ?

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	68	A	-1.41	-0.34	0.78	0.48	0.780 *	0.10	0.05	0.07	0.00	0.00	0.480 *	-0.26	-0.21	-0.29
K	69	B	-1.32	0.45	0.77	0.39	0.09	0.766 *	0.08	0.07	0.00	0.00	-0.25	0.388 *	-0.15	-0.22
K	70	C	0.14	0.46	0.50	0.35	0.20	0.16	0.497 *	0.13	0.01	0.00	-0.20	-0.13	0.351 *	-0.12
K	71	B	-1.95	-0.13	0.85	0.45	0.05	0.850 *	0.08	0.02	0.00	0.00	-0.24	0.450 *	-0.31	-0.18
K	72	C	0.28	-0.04	0.47	0.13	0.07	0.22	0.470 *	0.23	0.02	0.00	-0.15	-0.08	0.125 *	0.022 ?
K	73	A	-1.64	-0.01	0.08	-0.18	0.076 *	0.04	0.06	0.814 ?	0.01	0.00	-0.178 *	-0.18	-0.21	0.354 ?
K	74	D	0.04	-0.11	0.21	0.01	0.518 ?	0.16	0.10	0.210 *	0.01	0.00	0.349 ?	-0.26	-0.26	0.012 *
K	75	B	-1.67	3.24	0.04	-0.21	0.04	0.040 *	0.09	0.818 ?	0.01	0.00	-0.23	-0.214 *	-0.17	0.375 ?
K	76	A	4.72	0.00	0.11	-0.29	0.110 *	0.44	0.34	0.04	0.07	0.00	-0.289 *	-0.10	0.355 ?	0.207 ?
K	77	C	-1.72	0.00	0.07	-0.28	0.09	0.01	0.073 *	0.823 ?	0.00	0.00	-0.22	-0.16	-0.281 *	0.402 ?
K	78	B	-1.41	0.00	0.10	-0.26	0.780 ?	0.096 *	0.05	0.07	0.00	0.00	0.480 ?	-0.263 *	-0.21	-0.29
K	79	D	-1.32	0.00	0.07	-0.22	0.09	0.766 ?	0.08	0.066 *	0.00	0.00	-0.25	0.388 ?	-0.15	-0.218 *
K	80	B	0.14	0.00	0.16	-0.13	0.20	0.162 *	0.50	0.13	0.01	0.00	-0.20	-0.134 *	0.351 ?	-0.12
K	81	D	-1.95	0.00	0.02	-0.18	0.05	0.850 ?	0.08	0.018 *	0.00	0.00	-0.24	0.450 ?	-0.31	-0.182 *
L	68	D	-1.49	-0.34	0.79	0.28	0.06	0.12	0.03	0.790 *	0.00	0.00	-0.21	-0.10	-0.16	0.276 *
L	69	B	-0.83	0.45	0.69	0.45	0.04	0.685 *	0.16	0.12	0.00	0.00	-0.20	0.447 *	-0.29	-0.19
L	70	C	-0.61	0.46	0.64	0.29	0.05	0.27	0.644 *	0.04	0.00	0.00	-0.20	-0.15	0.285 *	-0.14
L	71	A	-0.77	-0.13	0.67	0.50	0.674 *	0.25	0.03	0.05	0.00	0.00	0.501 *	-0.36	-0.19	-0.21
L	72	B	-0.17	-0.04	0.56	0.48	0.32	0.559 *	0.08	0.05	0.00	0.00	-0.40	0.479 *	-0.13	-0.08
L	73	C	-1.68	-0.01	0.06	-0.22	0.07	0.04	0.058 *	0.820 ?	0.01	0.00	-0.17	-0.18	-0.217 *	0.363 ?
L	74	C	0.14	-0.11	0.09	-0.25	0.50	0.18	0.090 *	0.22	0.01	0.00	0.307 ?	-0.27	-0.247 *	0.072 ?
L	75	D	-1.71	3.24	0.82	0.38	0.04	0.04	0.09	0.823 *	0.01	0.00	-0.23	-0.18	-0.20	0.380 *
L	76	B	4.74	0.00	0.44	-0.11	0.10	0.437 *	0.35	0.04	0.07	0.00	-0.27	-0.113 *	0.358 ?	0.204 ?
L	77	D	-1.52	0.00	0.04	-0.18	0.795 ?	0.10	0.06	0.042 *	0.01	0.00	0.448 ?	-0.29	-0.23	-0.179 *
L	78	B	-1.49	0.00	0.12	-0.10	0.06	0.117 *	0.03	0.790 ?	0.00	0.00	-0.21	-0.100 *	-0.16	0.276 ?
L	79	C	-0.83	0.00	0.16	-0.29	0.04	0.685 ?	0.155 *	0.12	0.00	0.00	-0.20	0.447 ?	-0.285 *	-0.19
L	80	A	-0.61	0.00	0.05	-0.20	0.045 *	0.27	0.644 ?	0.04	0.00	0.00	-0.200 *	-0.15	0.285 ?	-0.14
L	81	D	-0.77	0.00	0.05	-0.21	0.674 ?	0.25	0.03	0.048 *	0.00	0.00	0.501 ?	-0.36	-0.19	-0.214 *

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	1	B	-1.95	0.03	0.84	0.26	0.05	0.837 *	0.09	0.02	0.00	0.00	-0.13	0.263 *	-0.18	-0.13
W	2	A	-2.45	0.03	0.89	0.32	0.889 *	0.05	0.05	0.01	0.00	0.00	0.321 *	-0.22	-0.20	-0.10
W	3	A	-0.60	0.02	0.62	0.53	0.617 *	0.14	0.14	0.11	0.00	0.00	0.534 *	-0.29	-0.26	-0.23
W	4	D	-0.16	0.02	0.53	0.42	0.04	0.13	0.30	0.529 *	0.00	0.00	-0.10	-0.22	-0.25	0.416 *
W	5	A	-2.35	0.03	0.88	0.40	0.880 *	0.01	0.02	0.09	0.00	0.00	0.397 *	-0.16	-0.16	-0.32
W	6	C	-1.70	0.03	0.80	0.43	0.04	0.13	0.804 *	0.02	0.00	0.00	-0.21	-0.31	0.427 *	-0.15
W	7	A	-1.39	0.03	0.76	0.26	0.758 *	0.07	0.03	0.15	0.00	0.00	0.258 *	-0.20	-0.22	-0.07
W	8	C	-1.42	0.03	0.76	0.27	0.05	0.05	0.763 *	0.14	0.00	0.00	-0.10	-0.20	0.268 *	-0.14
W	9	B	-0.68	0.02	0.63	0.53	0.23	0.633 *	0.11	0.03	0.00	0.00	-0.30	0.531 *	-0.33	-0.14
W	10	C	-1.13	0.02	0.72	0.39	0.05	0.06	0.715 *	0.18	0.00	0.00	-0.19	-0.16	0.392 *	-0.26
W	11	B	-0.50	0.02	0.60	0.45	0.01	0.597 *	0.34	0.04	0.00	0.00	-0.13	0.449 *	-0.37	-0.13
W	12	D	-0.81	0.02	0.66	0.47	0.08	0.21	0.05	0.657 *	0.00	0.00	-0.21	-0.31	-0.17	0.471 *
W	13	C	-0.52	0.02	0.60	0.21	0.09	0.16	0.601 *	0.14	0.01	0.00	-0.07	-0.04	0.208 *	-0.20
W	14	D	0.05	0.02	0.49	0.50	0.08	0.31	0.12	0.487 *	0.00	0.00	-0.13	-0.32	-0.21	0.504 *
W	15	B	-0.56	0.02	0.61	0.42	0.09	0.609 *	0.15	0.15	0.01	0.00	-0.09	0.415 *	-0.31	-0.18
W	16	D	-1.90	0.03	0.83	0.34	0.14	0.02	0.01	0.830 *	0.00	0.00	-0.26	-0.16	-0.13	0.343 *
W	17	D	-0.63	0.02	0.62	0.53	0.09	0.13	0.15	0.623 *	0.01	0.00	-0.23	-0.29	-0.26	0.533 *
W	18	C	0.61	0.02	0.38	0.32	0.11	0.17	0.375 *	0.34	0.00	0.00	-0.19	-0.30	0.323 *	0.042 ?
W	19	B	0.29	0.02	0.44	0.51	0.12	0.438 *	0.29	0.15	0.00	0.00	-0.07	0.511 *	-0.34	-0.21
W	20	B	-0.01	0.02	0.50	0.49	0.20	0.498 *	0.05	0.25	0.00	0.00	-0.13	0.492 *	-0.19	-0.35
W	21	B	0.18	0.02	0.46	0.21	0.11	0.461 *	0.16	0.25	0.02	0.00	-0.10	0.207 *	-0.15	-0.05
W	22	A	0.41	0.02	0.42	0.50	0.415 *	0.11	0.39	0.08	0.01	0.00	0.495 *	-0.26	-0.24	-0.15
W	23	A	0.51	0.02	0.40	0.19	0.395 *	0.15	0.23	0.22	0.01	0.00	0.192 *	-0.06	-0.08	-0.09
W	24	A	0.87	0.02	0.33	0.36	0.327 *	0.41	0.12	0.14	0.01	0.00	0.364 *	-0.13	-0.22	-0.10
W	141	A	-1.63	0.03	0.79	0.48	0.794 *	0.05	0.05	0.10	0.00	0.00	0.478 *	-0.24	-0.23	-0.30
W	142	D	-2.21	0.03	0.87	0.24	0.11	0.01	0.01	0.866 *	0.00	0.00	-0.16	-0.13	-0.16	0.242 *
W	143	B	-0.74	0.02	0.65	0.52	0.21	0.645 *	0.10	0.04	0.00	0.00	-0.30	0.520 *	-0.29	-0.19
W	144	A	-1.26	0.03	0.74	0.35	0.736 *	0.14	0.03	0.09	0.00	0.00	0.345 *	-0.16	-0.20	-0.21
W	145	B	-0.57	0.02	0.61	0.47	0.13	0.611 *	0.17	0.09	0.00	0.00	-0.25	0.473 *	-0.31	-0.09
W	146	C	-3.42	0.05	0.95	0.28	0.01	0.02	0.952 *	0.02	0.00	0.00	-0.12	-0.16	0.279 *	-0.18
W	147	B	-1.17	0.02	0.72	0.40	0.13	0.721 *	0.05	0.10	0.00	0.00	-0.21	0.400 *	-0.19	-0.22
W	148	C	-1.14	0.02	0.72	0.45	0.17	0.08	0.716 *	0.04	0.00	0.00	-0.20	-0.31	0.449 *	-0.23
W	149	A	-0.94	0.02	0.68	0.44	0.682 *	0.15	0.03	0.13	0.00	0.00	0.444 *	-0.13	-0.21	-0.36
W	150	C	-1.05	0.02	0.70	0.60	0.10	0.07	0.700 *	0.12	0.00	0.00	-0.35	-0.22	0.598 *	-0.33
W	151	C	-0.91	0.02	0.68	0.44	0.16	0.08	0.675 *	0.08	0.00	0.00	-0.26	-0.23	0.443 *	-0.18
W	152	C	-0.44	0.02	0.59	0.54	0.37	0.03	0.586 *	0.02	0.00	0.00	-0.46	-0.19	0.543 *	-0.10
W	153	B	-0.78	0.02	0.65	0.52	0.06	0.651 *	0.15	0.13	0.00	0.00	-0.20	0.521 *	-0.26	-0.31
W	154	B	-1.16	0.02	0.72	0.57	0.09	0.719 *	0.11	0.08	0.00	0.00	-0.23	0.568 *	-0.32	-0.32

**Appendix D: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Mathematics**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	155	B	-0.33	0.02	0.56	0.22	0.10	0.562 *	0.23	0.10	0.01	0.00	0.019 ?	0.215 *	-0.22	-0.08
W	156	A	-0.17	0.02	0.53	0.53	0.530 *	0.13	0.12	0.22	0.01	0.00	0.530 *	-0.30	-0.23	-0.22
W	157	D	-0.85	0.02	0.67	0.58	0.10	0.11	0.13	0.666 *	0.00	0.00	-0.27	-0.34	-0.27	0.582 *
W	158	A	0.58	0.02	0.38	0.48	0.381 *	0.15	0.26	0.20	0.00	0.00	0.479 *	-0.19	-0.07	-0.33
W	159	D	-0.23	0.02	0.54	0.47	0.11	0.15	0.19	0.543 *	0.00	0.00	-0.20	-0.25	-0.20	0.466 *
W	160	D	0.98	0.02	0.31	0.47	0.34	0.21	0.14	0.307 *	0.01	0.00	-0.10	-0.30	-0.14	0.473 *
W	161	A	0.78	0.02	0.34	0.35	0.344 *	0.30	0.19	0.16	0.01	0.00	0.346 *	-0.06	-0.22	-0.13
W	162	C	-0.97	0.02	0.69	0.25	0.07	0.11	0.687 *	0.13	0.01	0.00	-0.19	-0.19	0.254 *	-0.03
W	163	B	1.22	0.03	0.27	0.19	0.19	0.267 *	0.13	0.40	0.00	0.00	0.015 ?	0.190 *	-0.26	0.00
W	164	C	0.87	0.02	0.33	0.28	0.28	0.31	0.328 *	0.07	0.01	0.00	-0.12	-0.10	0.276 *	-0.10
W	166	C	-1.93	0.03	0.83	0.35	0.09	0.04	0.834 *	0.04	0.00	0.00	-0.26	-0.15	0.350 *	-0.14
W	167	B	-1.04	0.02	0.70	0.35	0.11	0.699 *	0.16	0.03	0.00	0.00	-0.17	0.354 *	-0.23	-0.15
W	168	A	-1.16	0.02	0.72	0.55	0.720 *	0.07	0.18	0.03	0.00	0.00	0.550 *	-0.22	-0.41	-0.21
W	169	A	-0.38	0.02	0.57	0.38	0.573 *	0.10	0.10	0.23	0.00	0.00	0.381 *	-0.19	-0.20	-0.17
W	170	C	-0.87	0.02	0.67	0.42	0.04	0.26	0.668 *	0.03	0.00	0.00	-0.14	-0.35	0.421 *	-0.11
W	171	C	-0.60	0.02	0.62	0.48	0.03	0.30	0.617 *	0.05	0.00	0.00	-0.19	-0.42	0.484 *	-0.05
W	172	C	-0.22	0.02	0.54	0.44	0.14	0.11	0.542 *	0.20	0.00	0.00	-0.21	-0.23	0.444 *	-0.19
W	173	B	0.02	0.02	0.49	0.19	0.18	0.493 *	0.17	0.16	0.01	0.00	0.037 ?	0.190 *	-0.16	-0.13
W	174	A	-1.69	0.03	0.80	0.39	0.803 *	0.05	0.10	0.05	0.00	0.00	0.393 *	-0.24	-0.24	-0.15
W	175	D	-0.20	0.02	0.54	0.33	0.08	0.14	0.23	0.538 *	0.01	0.00	-0.15	-0.16	-0.17	0.327 *
W	176	A	0.63	0.02	0.37	0.07	0.372 *	0.30	0.19	0.13	0.01	0.00	0.072 *	-0.13	-0.02	0.088 ?
W	177	B	-0.68	0.02	0.63	0.50	0.14	0.632 *	0.15	0.08	0.00	0.00	-0.26	0.504 *	-0.31	-0.16
W	178	C	-0.22	0.02	0.54	0.49	0.09	0.11	0.540 *	0.26	0.01	0.00	-0.15	-0.16	0.488 *	-0.34
W	179	C	-0.17	0.02	0.53	0.53	0.25	0.18	0.532 *	0.04	0.00	0.00	-0.34	-0.25	0.529 *	-0.11
W	180	A	-0.40	0.02	0.58	0.48	0.577 *	0.11	0.22	0.09	0.01	0.00	0.476 *	-0.20	-0.30	-0.16
W	181	D	0.28	0.02	0.44	0.57	0.21	0.20	0.15	0.441 *	0.01	0.00	-0.31	-0.17	-0.24	0.571 *
W	182	A	-1.10	0.02	0.71	0.50	0.709 *	0.04	0.05	0.20	0.00	0.00	0.504 *	-0.22	-0.25	-0.33
W	183	C	-0.23	0.02	0.54	0.36	0.06	0.20	0.544 *	0.19	0.00	0.00	-0.12	-0.26	0.364 *	-0.13
W	184	C	-0.04	0.02	0.51	0.38	0.25	0.12	0.505 *	0.12	0.00	0.00	-0.09	-0.25	0.380 *	-0.20
W	185	D	0.13	0.02	0.47	0.47	0.09	0.09	0.35	0.470 *	0.00	0.00	-0.30	-0.29	-0.14	0.474 *
W	186	C	0.01	0.02	0.50	0.42	0.12	0.21	0.496 *	0.17	0.01	0.00	-0.26	-0.24	0.421 *	-0.07
W	187	D	0.37	0.02	0.42	0.48	0.18	0.27	0.12	0.423 *	0.01	0.00	-0.19	-0.19	-0.22	0.479 *



**Appendix E: 2002 PSSA Grade Five Task Analysis**  
**Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
A	75	1	-0.67	2.71	0.66	0.18	0.14	0.11	0.15	0.23	0.20	-0.46	-0.23	-0.12	0.02	0.26	0.45
A	75	2	0.16														
A	75	3	0.26														
A	75	4	0.46														
A	75	5	1.82														
B	75	1	-0.40	1.92	0.63	0.23	0.21	0.21	0.19	0.13	0.05	-0.54	-0.12	0.08	0.26	0.28	0.23
B	75	2	0.45														
B	75	3	1.15														
B	75	4	2.01														
B	75	5	3.48														
C	75	1	-0.36	2.07	0.52	0.17	0.09	0.42	0.17	0.12	0.03	-0.38	-0.18	0.05	0.10	0.29	0.21
C	75	2	-0.97														
C	75	3	1.79														
C	75	4	2.00														
C	75	5	4.00														
D	75	1	-1.43	1.76	0.67	0.13	0.36	0.23	0.20	0.06	0.02	-0.52	-0.24	0.15	0.35	0.27	0.16
D	75	2	0.88														
D	75	3	1.37														
D	75	4	3.24														
D	75	5	4.22														
E	75	1	1.37	1.05	0.58	0.53	0.17	0.14	0.09	0.05	0.03	-0.51	0.05	0.19	0.26	0.27	0.23
E	75	2	1.34														
E	75	3	2.11														
E	75	4	2.92														
E	75	5	3.80														
F	75	1	-1.42	2.22	0.66	0.12	0.25	0.20	0.24	0.08	0.11	-0.42	-0.34	0.00	0.28	0.22	0.34
F	75	2	0.30														
F	75	3	0.73														
F	75	4	2.57														
F	75	5	1.91														
G	75	1	0.03	1.91	0.67	0.24	0.11	0.33	0.17	0.12	0.03	-0.59	-0.05	0.08	0.23	0.33	0.23
G	75	2	-0.46														
G	75	3	1.62														
G	75	4	2.13														
G	75	5	4.00														

**Appendix E: 2002 PSSA Grade Five Task Analysis**  
**Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
H	75	1	-1.42	1.57	0.58	0.14	0.44	0.19	0.17	0.06	0.00	-0.47	-0.16	0.17	0.31	0.24	0.06
H	75	2	1.39														
H	75	3	1.54														
H	75	4	3.36														
H	75	5	6.45														
I	75	1	-3.39	2.97	0.59	0.02	0.06	0.36	0.18	0.24	0.14	-0.24	-0.31	-0.26	-0.01	0.27	0.36
I	75	2	-1.98														
I	75	3	0.84														
I	75	4	0.75														
I	75	5	2.30														
J	75	1	-1.67	1.83	0.66	0.11	0.34	0.25	0.22	0.04	0.03	-0.47	-0.30	0.14	0.37	0.20	0.21
J	75	2	0.65														
J	75	3	1.35														
J	75	4	3.74														
J	75	5	3.33														
K	75	1	-0.09	2.61	0.71	0.20	0.07	0.19	0.18	0.20	0.17	-0.53	-0.15	-0.14	0.07	0.28	0.45
K	75	2	-0.59														
K	75	3	0.45														
K	75	4	0.91														
K	75	5	1.98														
L	75	1	-2.48	2.40	0.55	0.05	0.21	0.24	0.34	0.12	0.04	-0.31	-0.37	-0.02	0.24	0.22	0.20
L	75	2	-0.30														
L	75	3	0.43														
L	75	4	2.53														
L	75	5	3.34														
W	25	1	-0.90	2.26	0.68	0.17	0.19	0.17	0.19	0.22	0.05	-0.49	-0.24	-0.05	0.17	0.41	0.27
W	25	2	0.17														
W	25	3	0.64														
W	25	4	1.23														
W	25	5	3.79														
W	135	1	-1.20	2.51	0.67	0.14	0.11	0.22	0.22	0.27	0.05	-0.42	-0.27	-0.17	0.11	0.45	0.24
W	135	2	-0.57														
W	135	3	0.58														
W	135	4	1.05														
W	135	5	3.95														
W	158	1	-1.06	2.37	0.61	0.15	0.20	0.04	0.34	0.23	0.03	-0.40	-0.30	-0.07	0.20	0.36	0.20
W	158	2	1.11														
W	158	3	-0.99														
W	158	4	1.70														
W	158	5	4.46														

**Appendix F: 2002 PSSA Grade Eight Task Analysis**  
**Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
A	85	1	-1.40	2.80	0.70	0.09	0.14	0.23	0.13	0.20	0.20	-0.43	-0.29	-0.18	0.06	0.25	0.46
A	85	2	-0.59														
A	85	3	0.77														
A	85	4	0.50														
A	85	5	1.29														
B	85	1	0.16	1.31	0.61	0.35	0.30	0.19	0.03	0.06	0.06	-0.46	-0.07	0.20	0.15	0.29	0.34
B	85	2	1.14														
B	85	3	2.94														
B	85	4	1.13														
B	85	5	2.21														
C	85	1	0.01	2.13	0.73	0.24	0.14	0.25	0.08	0.18	0.11	-0.58	-0.14	0.00	0.14	0.36	0.40
C	85	2	-0.16														
C	85	3	1.64														
C	85	4	0.45														
C	85	5	2.09														
D	85	1	-1.29	2.52	0.66	0.10	0.15	0.25	0.20	0.25	0.06	-0.39	-0.33	-0.12	0.11	0.39	0.29
D	85	2	-0.55														
D	85	3	0.62														
D	85	4	0.82														
D	85	5	3.05														
E	85	1	-0.42	1.86	0.65	0.20	0.18	0.31	0.24	0.06	0.03	-0.51	-0.18	0.10	0.29	0.28	0.22
E	85	2	-0.21														
E	85	3	1.11														
E	85	4	2.88														
E	85	5	2.97														
F	85	1	-1.21	2.03	0.73	0.15	0.34	0.22	0.06	0.12	0.12	-0.51	-0.30	0.13	0.14	0.30	0.44
F	85	2	0.70														
F	85	3	1.96														
F	85	4	0.64														
F	85	5	1.69														
G	85	1	0.78	1.45	0.68	0.42	0.18	0.15	0.10	0.11	0.05	-0.61	0.00	0.17	0.24	0.36	0.28
G	85	2	0.84														
G	85	3	1.45														
G	85	4	1.40														
G	85	5	2.92														

**Appendix F: 2002 PSSA Grade Eight Task Analysis**  
**Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
H	85	1	0.82	1.49	0.71	0.40	0.15	0.19	0.11	0.09	0.05	-0.64	0.00	0.18	0.26	0.33	0.31
H	85	2	0.45														
H	85	3	1.56														
H	85	4	1.72														
H	85	5	2.62														
I	85	1	0.36	1.72	0.74	0.34	0.19	0.21	0.04	0.13	0.10	-0.63	-0.06	0.15	0.10	0.36	0.41
I	85	2	0.38														
I	85	3	2.31														
I	85	4	0.50														
I	85	5	2.15														
J	85	1	0.49	2.31	0.71	0.30	0.12	0.06	0.14	0.26	0.13	-0.61	-0.12	-0.02	0.12	0.34	0.41
J	85	2	0.70														
J	85	3	-0.09														
J	85	4	0.23														
J	85	5	2.25														
K	85	1	0.03	1.71	0.73	0.30	0.24	0.20	0.05	0.14	0.07	-0.62	-0.11	0.21	0.14	0.38	0.35
K	85	2	0.66														
K	85	3	2.23														
K	85	4	0.45														
K	85	5	2.49														
L	85	1	-0.15	2.46	0.76	0.23	0.15	0.11	0.12	0.19	0.19	-0.60	-0.20	-0.02	0.09	0.28	0.49
L	85	2	0.34														
L	85	3	0.40														
L	85	4	0.44														
L	85	5	1.47														
W	25	1	-1.063	2.413	0.687	0.146	0.208	0.204	0.097	0.218	0.127	-0.46	-0.29	-0.04	0.08	0.34	0.39
W	25	2	0.007														
W	25	3	1.137														
W	25	4	0.306														
W	25	5	2.036														
W	155	1	-0.378	2.843	0.722	0.153	0.084	0.149	0.139	0.327	0.146	-0.53	-0.23	-0.12	-0.02	0.34	0.42
W	155	2	-0.58														
W	155	3	0.225														
W	155	4	-0.11														
W	155	5	2.232														
W	178	1	0.401	1.55	0.675	0.362	0.196	0.149	0.133	0.142	0.018	-0.6	-0.04	0.16	0.27	0.39	0.17
W	178	2	0.779														
W	178	3	1.174														
W	178	4	1.359														
W	178	5	4.004														

**Appendix G: 2002 PSSA Grade Eleven Task Analysis**  
**Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
A	91	1	-0.11	0.92	0.63	0.41	0.41	0.08	0.04	0.04	0.02	-0.53	0.12	0.29	0.24	0.29	0.20
A	91	2	2.31														
A	91	3	2.00														
A	91	4	1.56														
A	91	5	3.14														
B	91	1	-0.34	1.84	0.74	0.28	0.22	0.19	0.10	0.12	0.10	-0.61	-0.15	0.17	0.17	0.33	0.40
B	91	2	0.21														
B	91	3	1.07														
B	91	4	0.89														
B	91	5	1.62														
C	91	1	0.96	1.10	0.72	0.50	0.16	0.20	0.07	0.04	0.04	-0.69	0.09	0.34	0.29	0.24	0.29
C	91	2	0.26														
C	91	3	1.94														
C	91	4	2.08														
C	91	5	1.68														
D	91	1	-0.13	1.69	0.78	0.31	0.21	0.17	0.13	0.13	0.05	-0.64	-0.11	0.10	0.27	0.44	0.31
D	91	2	0.27														
D	91	3	0.87														
D	91	4	1.09														
D	91	5	2.74														
E	91	1	-0.12	2.15	0.64	0.25	0.12	0.19	0.22	0.15	0.08	-0.54	-0.16	0.09	0.18	0.28	0.30
E	91	2	-0.48														
E	91	3	0.10														
E	91	4	1.14														
E	91	5	1.99														
F	91	1	1.03	0.91	0.65	0.58	0.20	0.06	0.06	0.06	0.03	-0.58	0.11	0.21	0.28	0.35	0.26
F	91	2	1.84														
F	91	3	1.05														
F	91	4	1.38														
F	91	5	2.65														
G	91	1	0.37	1.07	0.71	0.45	0.26	0.18	0.03	0.04	0.05	-0.63	0.06	0.35	0.20	0.27	0.34
G	91	2	0.89														
G	91	3	2.86														
G	91	4	1.35														
G	91	5	1.67														
H	91	1	0.49	1.13	0.69	0.44	0.23	0.22	0.01	0.05	0.05	-0.64	0.07	0.37	0.10	0.28	0.31
H	91	2	0.50														
H	91	3	3.63														
H	91	4	0.21														
H	91	5	1.84														

**Appendix G: 2002 PSSA Grade Eleven Task Analysis**  
**Open Ended Tasks for Mathematics**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	% Five	R(0)	R(1)	R(2)	R(3)	R(4)	R(5)
I	91	1	-1.83	2.31	0.77	0.12	0.35	0.09	0.12	0.18	0.14	-0.48	-0.42	0.02	0.19	0.36	0.44
I	91	2	0.93														
I	91	3	0.19														
I	91	4	0.26														
I	91	5	1.48														
J	91	1	-1.05	1.29	0.69	0.22	0.42	0.26	0.06	0.04	0.01	-0.54	-0.10	0.33	0.28	0.29	0.15
J	91	2	0.81														
J	91	3	2.53														
J	91	4	2.00														
J	91	5	3.89														
K	91	1	0.30	1.55	0.78	0.39	0.19	0.10	0.15	0.10	0.06	-0.70	-0.02	0.15	0.33	0.38	0.33
K	91	2	0.82														
K	91	3	0.28														
K	91	4	1.47														
K	91	5	2.20														
L	91	1	0.80	1.18	0.75	0.52	0.20	0.04	0.09	0.09	0.05	-0.69	0.10	0.12	0.29	0.40	0.36
L	91	2	1.90														
L	91	3	0.24														
L	91	4	1.20														
L	91	5	2.21														
W	25	1	-0.301	1.584	0.75	0.335	0.263	0.168	0.052	0.08	0.102	-0.63	-0.09	0.226	0.166	0.3	0.442
W	25	2	0.477														
W	25	3	1.581														
W	25	4	0.583														
W	25	5	1.056														
W	165	1	-1.89	1.586	0.715	0.147	0.547	0.088	0.076	0.079	0.064	-0.45	-0.25	0.1	0.24	0.35	0.405
W	165	2	1.756														
W	165	3	0.835														
W	165	4	0.925														
W	165	5	1.663														
W	188	1	0.121	1.353	0.748	0.423	0.244	0.104	0.084	0.073	0.072	-0.66	0.03	0.198	0.228	0.3	0.435
W	188	2	0.982														
W	188	3	0.872														
W	188	4	1.145														
W	188	5	1.46														

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	84	A	-0.82	0.00	0.78	0.55	0.78 *	0.08	0.06	0.08	0.00	0.00	0.55 *	-0.31	-0.29	-0.28
A	85	C	-1.15	0.00	0.82	0.38	0.05	0.04	0.82 *	0.09	0.00	0.00	-0.24	-0.24	0.38 *	-0.15
A	86	C	0.65	0.00	0.52	0.28	0.09	0.09	0.52 *	0.30	0.00	0.00	-0.11	-0.29	0.28 *	-0.05
A	87	C	0.61	0.00	0.52	0.40	0.22	0.13	0.52 *	0.13	0.00	0.00	-0.15	-0.22	0.40 *	-0.19
A	88	D	-0.09	0.00	0.66	0.43	0.09	0.17	0.08	0.66 *	0.00	0.00	-0.26	-0.16	-0.25	0.43 *
A	89	D	1.07	0.00	0.43	0.33	0.22	0.14	0.21	0.43 *	0.00	0.00	-0.11	-0.20	-0.11	0.33 *
A	90	D	1.46	0.00	0.35	0.30	0.24	0.21	0.20	0.35 *	0.00	0.00	-0.09	-0.14	-0.13	0.30 *
A	91	A	-0.88	0.00	0.79	0.51	0.79 *	0.12	0.04	0.05	0.00	0.00	0.51 *	-0.30	-0.26	-0.26
A	92	B	0.38	3.79	0.57	0.36	0.12	0.57 *	0.22	0.09	0.00	0.00	-0.14	0.36 *	-0.19	-0.18
A	93	B	-0.73	0.00	0.77	0.52	0.09	0.77 *	0.10	0.04	0.00	0.00	-0.35	0.52 *	-0.24	-0.24
A	94	A	0.75	0.00	0.50	0.43	0.50 *	0.11	0.17	0.22	0.00	0.00	0.43 *	-0.23	-0.23	-0.13
A	95	D	0.05	0.41	0.64	0.44	0.09	0.13	0.14	0.64 *	0.00	0.00	-0.24	-0.19	-0.21	0.44 *
A	96	C	0.68	-0.21	0.51	0.39	0.13	0.15	0.51 *	0.21	0.00	0.00	-0.24	-0.17	0.39 *	-0.13
A	97	B	-1.27	0.40	0.84	0.55	0.10	0.84 *	0.03	0.04	0.00	0.00	-0.36	0.55 *	-0.23	-0.30
A	98	B	-0.47	-0.22	0.73	0.60	0.08	0.73 *	0.13	0.06	0.00	0.00	-0.26	0.60 *	-0.38	-0.28
A	99	A	1.74	-0.24	0.30	0.23	0.30 *	0.37	0.19	0.13	0.00	0.00	0.23 *	-0.09	-0.10	-0.07
A	100	C	-0.41	-0.30	0.72	0.55	0.05	0.10	0.72 *	0.14	0.00	0.00	-0.27	-0.30	0.55 *	-0.29
A	101	A	0.25	-0.16	0.59	0.47	0.59 *	0.08	0.15	0.17	0.00	0.00	0.47 *	-0.27	-0.27	-0.15
A	103	D	-1.29	-0.23	0.84	0.52	0.06	0.07	0.03	0.84 *	0.01	0.00	-0.33	-0.26	-0.27	0.52 *
A	104	C	-1.18	0.53	0.83	0.53	0.07	0.05	0.83 *	0.04	0.00	0.00	-0.32	-0.29	0.53 *	-0.24
A	105	D	-1.02	-0.15	0.81	0.54	0.11	0.04	0.04	0.81 *	0.00	0.00	-0.33	-0.27	-0.27	0.54 *
A	106	D	-1.47	-0.26	0.86	0.58	0.05	0.06	0.03	0.86 *	0.00	0.00	-0.33	-0.32	-0.30	0.58 *
A	107	D	-0.71	-0.27	0.76	0.60	0.11	0.07	0.06	0.76 *	0.00	0.00	-0.29	-0.33	-0.33	0.60 *
A	108	A	-0.36	-0.20	0.71	0.58	0.71 *	0.10	0.11	0.09	0.00	0.00	0.58 *	-0.30	-0.33	-0.27
A	109	B	-0.35	-0.29	0.71	0.53	0.07	0.71 *	0.12	0.10	0.00	0.00	-0.26	0.53 *	-0.23	-0.32

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
B	84	D	-0.87	0.00	0.79	0.51	0.04	0.06	0.11	0.79 *	0.00	0.00	-0.26	-0.26	-0.29	0.51 *
B	85	A	-1.71	0.00	0.89	0.45	0.89 *	0.05	0.02	0.04	0.00	0.00	0.45 *	-0.25	-0.20	-0.30
B	86	D	-1.75	0.00	0.89	0.46	0.02	0.03	0.06	0.89 *	0.00	0.00	-0.19	-0.21	-0.34	0.46 *
B	87	B	-0.14	0.00	0.67	0.44	0.13	0.67 *	0.10	0.10	0.00	0.00	-0.19	0.44 *	-0.25	-0.21
B	88	C	0.96	0.00	0.45	0.27	0.16	0.25	0.45 *	0.14	0.00	0.00	-0.15	0.00 ?	0.27 *	-0.22
B	89	D	-1.26	0.00	0.84	0.55	0.09	0.02	0.05	0.84 *	0.00	0.00	-0.34	-0.25	-0.31	0.55 *
B	90	B	-0.29	0.00	0.70	0.39	0.08	0.70 *	0.08	0.14	0.00	0.00	-0.28	0.39 *	-0.25	-0.10
B	91	D	-0.94	0.00	0.80	0.55	0.10	0.06	0.03	0.80 *	0.00	0.00	-0.44	-0.18	-0.24	0.55 *
B	92	A	0.31	3.79	0.59	0.41	0.59 *	0.12	0.11	0.18	0.00	0.00	0.41 *	-0.19	-0.22	-0.19
B	93	D	-1.37	0.00	0.86	0.54	0.04	0.06	0.04	0.86 *	0.00	0.00	-0.31	-0.30	-0.26	0.54 *
B	94	B	1.24	0.00	0.39	0.03	0.27	0.39 *	0.16	0.18	0.00	0.00	0.02 ?	0.03 *	-0.01	-0.05
B	95	D	0.19	0.41	0.61	0.51	0.21	0.11	0.07	0.61 *	0.00	0.00	-0.22	-0.32	-0.23	0.51 *
B	96	B	-1.56	-0.21	0.88	0.46	0.06	0.88 *	0.03	0.03	0.00	0.00	-0.24	0.46 *	-0.25	-0.28
B	97	D	-1.21	0.40	0.84	0.58	0.09	0.04	0.03	0.84 *	0.00	0.00	-0.35	-0.34	-0.24	0.58 *
B	98	D	1.20	-0.22	0.40	0.29	0.16	0.06	0.37	0.40 *	0.00	0.00	-0.16	-0.21	-0.06	0.29 *
B	99	B	1.44	-0.24	0.35	0.20	0.17	0.35 *	0.41	0.06	0.00	0.00	-0.22	0.20 *	0.07 ?	-0.18
B	100	A	-1.32	-0.30	0.85	0.51	0.85 *	0.07	0.04	0.04	0.00	0.00	0.51 *	-0.24	-0.32	-0.29
B	101	B	0.47	-0.16	0.56	0.34	0.03	0.56 *	0.26	0.15	0.00	0.00	-0.30	0.34 *	-0.18	-0.10
B	102	B	0.62	-0.23	0.52	0.41	0.35	0.52 *	0.09	0.03	0.00	0.00	-0.23	0.41 *	-0.18	-0.23
B	103	C	-0.52	0.53	0.74	0.46	0.18	0.04	0.74 *	0.04	0.01	0.00	-0.23	-0.28	0.46 *	-0.29
B	104	A	-0.79	-0.15	0.78	0.41	0.78 *	0.10	0.07	0.04	0.00	0.00	0.41 *	-0.20	-0.24	-0.21
B	105	D	-0.29	-0.26	0.70	0.41	0.02	0.02	0.25	0.70 *	0.00	0.00	-0.23	-0.26	-0.25	0.41 *
B	107	A	0.82	-0.27	0.48	0.29	0.48 *	0.12	0.13	0.27	0.00	0.00	0.29 *	-0.13	-0.12	-0.13
B	108	A	0.20	-0.20	0.61	0.46	0.61 *	0.16	0.11	0.11	0.00	0.00	0.46 *	-0.25	-0.23	-0.17
B	109	B	2.25	-0.29	0.21	0.08	0.20	0.21 *	0.45	0.14	0.01	0.00	-0.14	0.08 *	0.04 ?	0.02 ?



**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	86	A	-1.59	0.01	0.88	0.49	0.88 *	0.04	0.03	0.05	0.00	0.00	0.49 *	-0.22	-0.28	-0.32
C	87	A	-1.08	-0.87	0.82	0.51	0.82 *	0.09	0.04	0.05	0.00	0.00	0.51 *	-0.25	-0.32	-0.27
C	88	C	-1.64	-1.71	0.89	0.52	0.03	0.04	0.89 *	0.05	0.00	0.00	-0.27	-0.31	0.52 *	-0.29
C	89	A	0.33	-1.75	0.58	0.22	0.58 *	0.11	0.05	0.26	0.00	0.00	0.22 *	-0.08	-0.16	-0.12
C	90	B	-1.34	-0.14	0.85	0.43	0.07	0.85 *	0.06	0.02	0.00	0.00	-0.21	0.43 *	-0.31	-0.17
C	91	C	-0.28	0.96	0.70	0.33	0.24	0.03	0.70 *	0.03	0.00	0.00	-0.16	-0.27	0.33 *	-0.21
C	92	D	-1.38	-1.26	0.86	0.42	0.01	0.06	0.07	0.86 *	0.00	0.00	-0.21	-0.27	-0.22	0.42 *
C	93	A	1.00	-0.29	0.44	0.23	0.44 *	0.10	0.24	0.21	0.00	0.00	0.23 *	-0.24	-0.09	0.00 ?
C	94	D	2.32	-0.94	0.20	0.05	0.27	0.30	0.22	0.20 *	0.00	0.00	0.10 ?	-0.03	-0.12	0.05 *
C	95	C	0.12	0.31	0.63	0.33	0.15	0.13	0.63 *	0.09	0.00	0.00	-0.13	-0.17	0.33 *	-0.19
C	97	A	-2.00	-1.37	0.91	0.47	0.91 *	0.02	0.03	0.04	0.00	0.00	0.47 *	-0.27	-0.29	-0.22
C	98	C	-0.01	1.24	0.65	0.41	0.11	0.21	0.65 *	0.02	0.00	0.00	-0.24	-0.22	0.41 *	-0.19
C	99	B	-1.07	0.19	0.82	0.43	0.05	0.82 *	0.10	0.03	0.00	0.00	-0.25	0.43 *	-0.21	-0.25
C	100	B	1.43	-1.56	0.36	0.30	0.26	0.36 *	0.11	0.28	0.00	0.00	-0.20	0.30 *	-0.16	-0.01
C	101	A	-0.34	-1.21	0.71	0.54	0.71 *	0.10	0.10	0.09	0.00	0.00	0.54 *	-0.25	-0.32	-0.25
C	102	A	-0.10	1.20	0.67	0.32	0.67 *	0.12	0.15	0.06	0.00	0.00	0.32 *	-0.19	-0.14	-0.15
C	103	C	1.72	1.44	0.30	0.08	0.37	0.19	0.30 *	0.13	0.01	0.00	0.11 ?	-0.11	0.08 *	-0.12
C	104	B	-0.95	-1.32	0.81	0.55	0.12	0.81 *	0.04	0.04	0.00	0.00	-0.34	0.55 *	-0.27	-0.29
C	105	A	-1.63	0.47	0.88	0.50	0.88 *	0.05	0.04	0.02	0.00	0.00	0.50 *	-0.31	-0.26	-0.23
C	106	B	0.74	0.62	0.50	0.24	0.40	0.50 *	0.06	0.04	0.00	0.00	-0.07	0.24 *	-0.20	-0.18
C	107	D	-0.75	-0.52	0.78	0.37	0.10	0.04	0.07	0.78 *	0.00	0.00	-0.11	-0.32	-0.19	0.37 *
C	108	C	0.66	-0.79	0.52	0.10	0.26	0.07	0.52 *	0.16	0.00	0.00	0.05 ?	-0.20	0.10 *	-0.04
C	109	A	-1.63	-0.29	0.88	0.44	0.88 *	0.04	0.05	0.03	0.00	0.00	0.44 *	-0.22	-0.26	-0.25

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
D	85	B	-1.32	0.01	0.85	0.43	0.08	0.85 *	0.01	0.06	0.00	0.00	-0.27	0.43 *	-0.22	-0.22
D	86	A	-1.95	-0.87	0.91	0.45	0.91 *	0.03	0.05	0.02	0.00	0.00	0.45 *	-0.27	-0.25	-0.24
D	87	B	1.24	-1.71	0.39	0.25	0.32	0.39 *	0.10	0.18	0.00	0.00	0.00 ?	0.25 *	-0.29	-0.08
D	88	B	-1.17	-1.75	0.83	0.46	0.05	0.83 *	0.08	0.04	0.00	0.00	-0.29	0.46 *	-0.24	-0.23
D	89	A	0.35	-0.14	0.58	0.33	0.58 *	0.07	0.23	0.12	0.00	0.00	0.33 *	-0.19	-0.16	-0.13
D	90	A	-2.07	0.96	0.92	0.50	0.92 *	0.04	0.02	0.03	0.00	0.00	0.50 *	-0.30	-0.26	-0.27
D	91	D	-0.84	-1.26	0.79	0.50	0.13	0.03	0.05	0.79 *	0.00	0.00	-0.27	-0.24	-0.32	0.50 *
D	92	C	-1.66	-0.29	0.88	0.40	0.02	0.04	0.88 *	0.06	0.00	0.00	-0.18	-0.22	0.40 *	-0.25
D	94	A	-0.10	-0.94	0.66	0.41	0.66 *	0.04	0.12	0.18	0.00	0.00	0.41 *	-0.25	-0.33	-0.09
D	95	B	-0.95	0.31	0.80	0.40	0.14	0.80 *	0.04	0.02	0.00	0.00	-0.21	0.40 *	-0.28	-0.23
D	96	B	-0.28	-1.37	0.70	0.47	0.12	0.70 *	0.13	0.06	0.00	0.00	-0.25	0.47 *	-0.22	-0.25
D	97	B	-0.32	1.24	0.70	0.41	0.18	0.70 *	0.03	0.08	0.00	0.00	-0.25	0.41 *	-0.24	-0.17
D	98	B	-0.91	0.19	0.80	0.47	0.10	0.80 *	0.08	0.03	0.00	0.00	-0.31	0.47 *	-0.23	-0.21
D	99	D	-0.60	-1.56	0.75	0.36	0.14	0.03	0.08	0.75 *	0.00	0.00	-0.23	-0.23	-0.13	0.36 *
D	100	D	-0.09	-1.21	0.66	0.58	0.07	0.16	0.10	0.66 *	0.00	0.00	-0.32	-0.34	-0.20	0.58 *
D	101	B	-0.92	1.20	0.80	0.47	0.05	0.80 *	0.11	0.03	0.00	0.00	-0.26	0.47 *	-0.25	-0.27
D	102	C	0.82	1.44	0.48	0.33	0.08	0.38	0.48 *	0.06	0.00	0.00	-0.23	-0.06	0.33 *	-0.31
D	103	D	-0.04	-1.32	0.65	0.48	0.19	0.07	0.08	0.65 *	0.01	0.00	-0.37	-0.12	-0.15	0.48 *
D	104	C	-0.26	0.47	0.69	0.45	0.02	0.08	0.69 *	0.21	0.00	0.00	-0.27	-0.29	0.45 *	-0.22
D	105	A	-0.29	0.62	0.70	0.30	0.70 *	0.05	0.19	0.06	0.00	0.00	0.30 *	-0.25	-0.14	-0.10
D	106	B	-0.26	-0.52	0.69	0.50	0.15	0.69 *	0.08	0.07	0.00	0.00	-0.30	0.50 *	-0.26	-0.18
D	108	C	1.19	-0.79	0.41	0.25	0.25	0.04	0.41 *	0.30	0.00	0.00	-0.14	-0.24	0.25 *	-0.03
D	109	C	-0.07	-0.29	0.66	0.40	0.09	0.11	0.66 *	0.13	0.00	0.00	-0.21	-0.17	0.40 *	-0.21

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	85	B	-0.68	0.01	0.76	0.58	0.08	0.76 *	0.12	0.04	0.00	0.00	-0.26	0.58 *	-0.38	-0.25
E	86	A	1.76	-0.87	0.30	0.21	0.30 *	0.38	0.18	0.14	0.00	0.00	0.21 *	-0.07	-0.09	-0.07
E	87	C	-0.71	-1.71	0.77	0.52	0.03	0.09	0.77 *	0.11	0.00	0.00	-0.24	-0.31	0.52 *	-0.27
E	88	A	0.23	-1.75	0.60	0.42	0.60 *	0.07	0.14	0.19	0.00	0.00	0.42 *	-0.22	-0.27	-0.14
E	90	D	-1.73	-0.14	0.89	0.46	0.04	0.05	0.02	0.89 *	0.00	0.00	-0.31	-0.23	-0.23	0.46 *
E	91	C	-1.52	0.96	0.87	0.50	0.06	0.04	0.87 *	0.03	0.00	0.00	-0.28	-0.29	0.50 *	-0.25
E	92	D	-1.28	-1.26	0.84	0.49	0.10	0.03	0.03	0.84 *	0.00	0.00	-0.30	-0.25	-0.25	0.49 *
E	93	D	-1.83	-0.29	0.90	0.53	0.03	0.05	0.02	0.90 *	0.00	0.00	-0.32	-0.30	-0.27	0.53 *
E	94	D	-0.90	-0.94	0.79	0.54	0.10	0.07	0.04	0.79 *	0.00	0.00	-0.29	-0.31	-0.28	0.54 *
E	95	A	-0.63	0.31	0.76	0.55	0.76 *	0.08	0.08	0.08	0.00	0.00	0.55 *	-0.30	-0.32	-0.24
E	96	B	-0.59	-1.37	0.75	0.51	0.06	0.75 *	0.11	0.08	0.00	0.00	-0.22	0.51 *	-0.23	-0.35
E	97	C	-2.67	1.24	0.95	0.41	0.02	0.02	0.95 *	0.01	0.00	0.00	-0.28	-0.24	0.41 *	-0.16
E	98	A	-1.34	0.19	0.85	0.52	0.85 *	0.05	0.04	0.06	0.00	0.00	0.52 *	-0.27	-0.27	-0.30
E	99	D	1.07	-1.56	0.43	0.27	0.12	0.35	0.09	0.43 *	0.00	0.00	-0.23	0.01 ?	-0.21	0.27 *
E	100	B	0.08	-1.21	0.63	0.26	0.19	0.63 *	0.12	0.05	0.00	0.00	-0.14	0.26 *	-0.09	-0.18
E	101	C	-0.79	1.20	0.78	0.39	0.15	0.04	0.78 *	0.04	0.00	0.00	-0.20	-0.26	0.39 *	-0.19
E	102	B	-0.75	1.44	0.77	0.50	0.08	0.77 *	0.10	0.05	0.00	0.00	-0.26	0.50 *	-0.30	-0.22
E	103	B	-2.28	-1.32	0.93	0.42	0.02	0.93 *	0.03	0.02	0.01	0.00	-0.25	0.42 *	-0.17	-0.30
E	104	C	-2.09	0.47	0.92	0.44	0.03	0.03	0.92 *	0.03	0.00	0.00	-0.24	-0.22	0.44 *	-0.26
E	105	C	0.84	0.62	0.48	0.39	0.24	0.21	0.48 *	0.07	0.00	0.00	-0.13	-0.21	0.39 *	-0.20
E	106	C	0.44	-0.52	0.56	0.39	0.09	0.19	0.56 *	0.15	0.00	0.00	-0.28	-0.07	0.39 *	-0.22
E	108	C	-1.00	-0.79	0.81	0.34	0.03	0.05	0.81 *	0.11	0.00	0.00	-0.31	-0.21	0.34 *	-0.11
E	109	B	-0.87	-0.29	0.79	0.39	0.07	0.79 *	0.03	0.11	0.00	0.00	-0.20	0.39 *	-0.27	-0.18

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
F	85	D	1.15	-0.27	0.41	0.29	0.16	0.05	0.38	0.41 *	0.00	0.00	-0.17	-0.20	-0.07	0.29 *
F	86	B	1.40	-0.14	0.36	0.22	0.16	0.36 *	0.42	0.06	0.00	0.00	-0.22	0.22 *	0.04 ?	-0.17
F	87	A	-1.55	0.46	0.88	0.43	0.88 *	0.06	0.03	0.03	0.00	0.00	0.43 *	-0.22	-0.27	-0.25
F	88	B	0.47	-0.25	0.56	0.29	0.03	0.56 *	0.27	0.15	0.00	0.00	-0.24	0.29 *	-0.19	-0.07
F	89	B	0.26	0.49	0.60	0.43	0.29	0.60 *	0.08	0.02	0.00	0.00	-0.28	0.43 *	-0.17	-0.21
F	90	C	-0.71	0.53	0.77	0.43	0.17	0.03	0.77 *	0.03	0.00	0.00	-0.23	-0.27	0.43 *	-0.28
F	91	A	-0.99	0.54	0.81	0.39	0.81 *	0.10	0.06	0.03	0.00	0.00	0.39 *	-0.22	-0.23	-0.19
F	92	D	-0.56	-0.24	0.75	0.38	0.02	0.02	0.21	0.75 *	0.00	0.00	-0.21	-0.22	-0.26	0.38 *
F	94	A	0.97	-0.35	0.45	0.24	0.45 *	0.14	0.13	0.29	0.00	0.00	0.24 *	-0.10	-0.08	-0.13
F	95	A	0.13	-0.16	0.63	0.46	0.63 *	0.15	0.11	0.11	0.00	0.00	0.46 *	-0.26	-0.23	-0.18
F	96	B	2.23	-0.30	0.21	0.11	0.20	0.21 *	0.45	0.14	0.00	0.00	-0.16	0.11 *	0.02 ?	0.03 ?
F	97	B	-0.89	0.27	0.80	0.33	0.03	0.80 *	0.04	0.13	0.00	0.00	-0.26	0.33 *	-0.14	-0.17
F	98	A	-1.15	-0.18	0.84	0.29	0.84 *	0.11	0.04	0.02	0.00	0.00	0.29 *	-0.10	-0.23	-0.21
F	99	A	-0.41	-0.19	0.73	0.41	0.73 *	0.08	0.06	0.13	0.00	0.00	0.41 *	-0.23	-0.28	-0.15
F	100	B	-1.62	-0.22	0.89	0.48	0.04	0.89 *	0.04	0.03	0.00	0.00	-0.27	0.48 *	-0.24	-0.29
F	101	A	0.56	-0.30	0.54	0.27	0.54 *	0.21	0.16	0.09	0.00	0.00	0.27 *	-0.18	-0.10	-0.07
F	102	A	0.10	-0.26	0.63	0.43	0.63 *	0.16	0.10	0.11	0.00	0.00	0.43 *	-0.18	-0.19	-0.26
F	103	C	-0.13	-0.20	0.68	0.42	0.06	0.20	0.68 *	0.06	0.00	0.00	-0.26	-0.16	0.42 *	-0.29
F	104	B	0.12	-0.22	0.63	0.41	0.04	0.63 *	0.11	0.23	0.00	0.00	-0.30	0.41 *	-0.28	-0.13
F	105	A	0.89	-0.11	0.47	0.23	0.47 *	0.11	0.26	0.17	0.00	0.00	0.23 *	-0.16	-0.04	-0.11
F	106	D	1.12	-0.18	0.42	0.24	0.35	0.12	0.11	0.42 *	0.00	0.00	0.03 ?	-0.18	-0.23	0.24 *
F	107	D	-0.29	-0.14	0.71	0.39	0.05	0.07	0.17	0.71 *	0.00	0.00	-0.23	-0.24	-0.16	0.39 *
F	108	B	0.26	-0.15	0.60	0.36	0.22	0.60 *	0.07	0.11	0.00	0.00	-0.09	0.36 *	-0.25	-0.24
F	109	C	1.67	-0.17	0.31	0.16	0.43	0.11	0.31 *	0.14	0.00	0.00	0.00 ?	-0.18	0.16 *	-0.05

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	85	B	0.41	0.00	0.57	0.37	0.15	0.57 *	0.23	0.05	0.00	0.00	-0.21	0.37 *	-0.19	-0.13
G	86	D	0.45	0.00	0.56	0.30	0.12	0.26	0.07	0.56 *	0.00	0.00	-0.23	-0.02	-0.25	0.30 *
G	87	A	-0.98	0.00	0.81	0.46	0.81 *	0.05	0.07	0.06	0.00	0.00	0.46 *	-0.24	-0.23	-0.27
G	88	A	-0.73	0.00	0.78	0.26	0.78 *	0.08	0.03	0.11	0.00	0.00	0.26 *	-0.17	-0.24	-0.06
G	90	A	1.36	0.50	0.37	0.09	0.37 *	0.15	0.08	0.40	0.00	0.00	0.09 *	-0.22	-0.21	0.19 ?
G	91	A	1.42	0.58	0.36	0.14	0.36 *	0.39	0.10	0.15	0.00	0.00	0.14 *	0.06 ?	-0.21	-0.07
G	92	B	0.88	0.00	0.47	0.34	0.21	0.47 *	0.14	0.18	0.00	0.00	-0.09	0.34 *	-0.16	-0.19
G	93	B	-1.05	0.00	0.82	0.32	0.05	0.82 *	0.03	0.09	0.00	0.00	-0.26	0.32 *	-0.24	-0.07
G	94	A	0.52	0.00	0.55	0.46	0.55 *	0.06	0.21	0.18	0.00	0.00	0.46 *	-0.29	-0.16	-0.24
G	96	D	0.21	0.00	0.61	0.51	0.18	0.16	0.05	0.61 *	0.00	0.00	-0.25	-0.25	-0.27	0.51 *
G	98	D	-1.67	0.00	0.89	0.51	0.04	0.05	0.02	0.89 *	0.00	0.00	-0.28	-0.30	-0.27	0.51 *
G	99	A	-1.29	0.00	0.85	0.45	0.85 *	0.08	0.02	0.05	0.00	0.00	0.45 *	-0.17	-0.30	-0.31
G	100	A	-1.02	0.00	0.82	0.53	0.82 *	0.09	0.04	0.05	0.00	0.00	0.53 *	-0.27	-0.30	-0.29
G	101	C	-1.42	0.00	0.87	0.56	0.04	0.05	0.87 *	0.05	0.00	0.00	-0.31	-0.33	0.56 *	-0.27
G	102	A	0.24	0.00	0.60	0.24	0.60 *	0.10	0.05	0.24	0.00	0.00	0.24 *	-0.09	-0.19	-0.11
G	103	B	-1.10	0.00	0.83	0.48	0.07	0.83 *	0.07	0.03	0.01	0.00	-0.23	0.48 *	-0.31	-0.22
G	104	C	-0.26	0.00	0.70	0.35	0.23	0.04	0.70 *	0.03	0.00	0.00	-0.15	-0.31	0.35 *	-0.21
G	105	D	-1.26	0.00	0.85	0.45	0.02	0.06	0.07	0.85 *	0.00	0.00	-0.25	-0.27	-0.23	0.45 *
G	106	A	1.02	0.00	0.44	0.20	0.44 *	0.10	0.23	0.23	0.00	0.00	0.20 *	-0.22	-0.10	0.03 ?
G	107	D	2.22	0.00	0.21	0.05	0.28	0.33	0.18	0.21 *	0.00	0.00	0.13 ?	-0.02	-0.16	0.05 *
G	108	C	0.19	0.00	0.61	0.36	0.15	0.14	0.61 *	0.10	0.00	0.00	-0.13	-0.18	0.36 *	-0.21

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
H	85	C	0.30	0.00	0.59	0.47	0.12	0.14	0.59 *	0.15	0.00	0.00	-0.29	-0.19	0.47 *	-0.19
H	86	A	0.89	0.00	0.47	0.34	0.47 *	0.03	0.31	0.19	0.00	0.00	0.34 *	-0.24	-0.15	-0.15
H	87	C	-0.31	0.00	0.70	0.41	0.16	0.06	0.70 *	0.08	0.00	0.00	-0.20	-0.28	0.41 *	-0.17
H	88	C	0.02	0.00	0.64	0.39	0.19	0.09	0.64 *	0.08	0.00	0.00	-0.10	-0.23	0.39 *	-0.29
H	90	C	-0.15	0.00	0.67	0.47	0.12	0.12	0.67 *	0.08	0.00	0.00	-0.32	-0.18	0.47 *	-0.19
H	91	B	0.90	0.00	0.46	0.31	0.17	0.46 *	0.09	0.28	0.00	0.00	-0.26	0.31 *	-0.20	0.00 ?
H	92	A	0.77	0.00	0.49	0.35	0.49 *	0.05	0.21	0.25	0.00	0.00	0.35 *	-0.28	-0.23	-0.04
H	93	C	0.36	0.00	0.58	0.41	0.22	0.06	0.58 *	0.14	0.00	0.00	-0.25	-0.23	0.41 *	-0.12
H	94	C	1.28	0.00	0.39	0.27	0.15	0.31	0.39 *	0.16	0.00	0.00	-0.06	-0.16	0.27 *	-0.08
H	95	D	0.59	0.00	0.53	0.35	0.27	0.17	0.04	0.53 *	0.00	0.00	-0.16	-0.15	-0.25	0.35 *
H	96	A	1.40	0.00	0.36	0.33	0.36 *	0.08	0.44	0.12	0.00	0.00	0.33 *	-0.16	-0.12	-0.17
H	97	C	-1.23	0.00	0.84	0.35	0.05	0.07	0.84 *	0.04	0.00	0.00	-0.22	-0.21	0.35 *	-0.14
H	98	B	-1.12	0.00	0.83	0.44	0.09	0.83 *	0.02	0.06	0.00	0.00	-0.29	0.44 *	-0.25	-0.20
H	99	A	-1.86	0.00	0.90	0.47	0.90 *	0.03	0.05	0.02	0.00	0.00	0.47 *	-0.27	-0.27	-0.25
H	100	B	1.09	0.00	0.42	0.30	0.29	0.42 *	0.10	0.19	0.00	0.00	-0.01	0.30 *	-0.31	-0.12
H	101	B	-0.88	0.00	0.79	0.50	0.06	0.79 *	0.10	0.05	0.00	0.00	-0.32	0.50 *	-0.24	-0.24
H	102	A	0.34	0.00	0.58	0.36	0.58 *	0.08	0.22	0.12	0.00	0.00	0.36 *	-0.21	-0.16	-0.15
H	103	A	-1.86	0.00	0.90	0.52	0.90 *	0.04	0.03	0.03	0.01	0.00	0.52 *	-0.28	-0.29	-0.29
H	104	D	-0.67	0.00	0.76	0.53	0.14	0.03	0.06	0.76 *	0.00	0.00	-0.27	-0.26	-0.33	0.53 *
H	105	C	-1.10	0.00	0.82	0.43	0.02	0.06	0.82 *	0.10	0.00	0.00	-0.22	-0.25	0.43 *	-0.25
H	107	A	-0.12	0.00	0.67	0.41	0.67 *	0.04	0.12	0.17	0.00	0.00	0.41 *	-0.27	-0.33	-0.08
H	108	B	-0.73	0.00	0.77	0.37	0.16	0.77 *	0.05	0.02	0.00	0.00	-0.18	0.37 *	-0.25	-0.23
H	109	B	-0.08	0.00	0.66	0.46	0.12	0.66 *	0.15	0.07	0.01	0.00	-0.23	0.46 *	-0.21	-0.26

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	85	A	-1.43	-0.17	0.86	0.48	0.86 *	0.04	0.03	0.06	0.00	0.00	0.48 *	-0.25	-0.23	-0.30
I	86	D	1.04	-0.29	0.43	0.27	0.10	0.38	0.08	0.43 *	0.00	0.00	-0.21	-0.02	-0.21	0.27 *
I	87	B	-0.07	-0.19	0.66	0.23	0.18	0.66 *	0.12	0.04	0.00	0.00	-0.11	0.23 *	-0.09	-0.17
I	88	C	-0.71	0.00	0.77	0.34	0.15	0.04	0.77 *	0.03	0.00	0.00	-0.17	-0.22	0.34 *	-0.18
I	89	B	-0.76	-0.04	0.78	0.47	0.08	0.78 *	0.09	0.04	0.00	0.00	-0.24	0.47 *	-0.28	-0.21
I	90	B	-2.60	-0.12	0.95	0.32	0.02	0.95 *	0.02	0.01	0.00	0.00	-0.21	0.32 *	-0.13	-0.23
I	91	C	-2.30	-0.08	0.93	0.37	0.02	0.02	0.93 *	0.02	0.00	0.00	-0.19	-0.17	0.37 *	-0.25
I	92	C	0.77	0.35	0.49	0.41	0.23	0.21	0.49 *	0.07	0.00	0.00	-0.13	-0.23	0.41 *	-0.20
I	93	C	0.40	-0.17	0.57	0.39	0.08	0.19	0.57 *	0.16	0.00	0.00	-0.26	-0.08	0.39 *	-0.23
I	95	C	-1.01	-0.14	0.81	0.29	0.03	0.05	0.81 *	0.11	0.00	0.00	-0.26	-0.18	0.29 *	-0.11
I	96	B	-0.54	-0.20	0.74	0.36	0.08	0.74 *	0.04	0.13	0.00	0.00	-0.17	0.36 *	-0.25	-0.18
I	97	A	-0.71	-0.25	0.77	0.54	0.77 *	0.08	0.07	0.08	0.00	0.00	0.54 *	-0.29	-0.30	-0.27
I	98	C	-1.04	-0.12	0.82	0.40	0.05	0.04	0.82 *	0.09	0.00	0.00	-0.25	-0.26	0.40 *	-0.16
I	99	C	0.67	-0.24	0.51	0.29	0.09	0.09	0.51 *	0.31	0.00	0.00	-0.15	-0.29	0.29 *	-0.04
I	100	C	0.69	-0.15	0.51	0.36	0.25	0.11	0.51 *	0.13	0.00	0.00	-0.14	-0.20	0.36 *	-0.16
I	101	D	-0.06	-0.29	0.66	0.45	0.09	0.18	0.07	0.66 *	0.00	0.00	-0.25	-0.18	-0.27	0.45 *
I	102	D	1.02	0.53	0.44	0.34	0.22	0.12	0.22	0.44 *	0.00	0.00	-0.10	-0.20	-0.13	0.34 *
I	103	D	1.48	-0.25	0.35	0.29	0.24	0.22	0.20	0.35 *	0.01	0.00	-0.05	-0.13	-0.14	0.29 *
I	104	A	-0.79	-0.08	0.78	0.49	0.78 *	0.12	0.04	0.05	0.00	0.00	0.49 *	-0.29	-0.24	-0.26
I	105	B	0.31	-0.23	0.59	0.35	0.11	0.59 *	0.22	0.08	0.00	0.00	-0.13	0.35 *	-0.19	-0.17
I	106	B	-0.73	-0.26	0.77	0.49	0.08	0.77 *	0.10	0.04	0.00	0.00	-0.32	0.49 *	-0.23	-0.22
I	107	A	0.70	-0.15	0.51	0.40	0.51 *	0.11	0.16	0.22	0.00	0.00	0.40 *	-0.22	-0.21	-0.12
I	108	D	-0.02	-0.17	0.65	0.45	0.07	0.14	0.14	0.65 *	0.00	0.00	-0.26	-0.20	-0.22	0.45 *
I	109	C	0.73	-0.16	0.50	0.39	0.15	0.14	0.50 *	0.21	0.00	0.00	-0.26	-0.14	0.39 *	-0.12

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
J	85	A	-1.15	0.00	0.83	0.22	0.83 *	0.12	0.03	0.02	0.00	0.00	0.22 *	-0.04	-0.21	-0.23
J	86	A	-0.47	0.00	0.73	0.41	0.73 *	0.07	0.06	0.14	0.00	0.00	0.41 *	-0.23	-0.27	-0.17
J	87	B	-1.65	0.00	0.88	0.47	0.04	0.88 *	0.04	0.03	0.00	0.00	-0.25	0.47 *	-0.24	-0.28
J	88	A	0.53	0.00	0.54	0.26	0.54 *	0.20	0.15	0.11	0.00	0.00	0.26 *	-0.19	-0.09	-0.06
J	89	A	0.01	0.00	0.65	0.42	0.65 *	0.16	0.09	0.11	0.00	0.00	0.42 *	-0.17	-0.18	-0.27
J	90	C	-0.28	0.00	0.70	0.44	0.07	0.18	0.70 *	0.05	0.00	0.00	-0.28	-0.18	0.44 *	-0.28
J	91	B	0.04	0.00	0.64	0.42	0.03	0.64 *	0.09	0.25	0.00	0.00	-0.27	0.42 *	-0.26	-0.20
J	92	A	0.75	0.00	0.50	0.22	0.50 *	0.09	0.25	0.16	0.00	0.00	0.22 *	-0.16	-0.07	-0.10
J	93	D	0.99	0.00	0.45	0.28	0.34	0.11	0.10	0.45 *	0.00	0.00	-0.01	-0.19	-0.24	0.28 *
J	94	D	-0.51	0.00	0.74	0.41	0.05	0.07	0.14	0.74 *	0.00	0.00	-0.26	-0.24	-0.17	0.41 *
J	95	B	0.03	0.00	0.64	0.35	0.19	0.64 *	0.06	0.11	0.00	0.00	-0.09	0.35 *	-0.21	-0.25
J	96	C	1.45	0.00	0.35	0.17	0.41	0.12	0.35 *	0.12	0.00	0.00	0.00	-0.16	0.17 *	-0.08
J	97	D	-0.67	0.00	0.77	0.52	0.05	0.07	0.11	0.77 *	0.00	0.00	-0.27	-0.25	-0.30	0.52 *
J	98	A	-1.57	0.00	0.88	0.47	0.88 *	0.05	0.03	0.04	0.00	0.00	0.47 *	-0.26	-0.24	-0.28
J	99	D	-1.53	0.00	0.87	0.51	0.02	0.04	0.07	0.87 *	0.00	0.00	-0.24	-0.25	-0.35	0.51 *
J	100	B	-0.35	0.00	0.71	0.48	0.12	0.71 *	0.08	0.08	0.00	0.00	-0.21	0.48 *	-0.27	-0.26
J	101	C	0.91	0.00	0.46	0.28	0.16	0.24	0.46 *	0.14	0.00	0.00	-0.13	-0.05	0.28 *	-0.21
J	102	D	-0.96	0.00	0.81	0.57	0.12	0.03	0.05	0.81 *	0.00	0.00	-0.36	-0.27	-0.31	0.57 *
J	103	B	-0.22	0.00	0.69	0.42	0.08	0.69 *	0.09	0.14	0.01	0.00	-0.24	0.42 *	-0.27	-0.14
J	104	D	-0.68	0.00	0.77	0.58	0.12	0.07	0.04	0.77 *	0.00	0.00	-0.44	-0.18	-0.28	0.58 *
J	105	A	0.36	0.00	0.58	0.44	0.58 *	0.12	0.11	0.19	0.00	0.00	0.44 *	-0.21	-0.22	-0.20
J	106	D	-1.19	0.00	0.84	0.56	0.04	0.07	0.05	0.84 *	0.00	0.00	-0.29	-0.32	-0.29	0.56 *
J	107	A	1.97	0.00	0.26	0.06	0.26 *	0.40	0.16	0.18	0.00	0.00	0.06 *	0.01	?	-0.02
J	108	D	0.32	0.00	0.59	0.50	0.22	0.12	0.07	0.59 *	0.00	0.00	-0.18	-0.33	-0.24	0.50 *
J	109	B	-1.46	0.00	0.87	0.49	0.06	0.87 *	0.04	0.03	0.00	0.00	-0.27	0.49 *	-0.25	-0.28



**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	85	C	-0.08	0.00	0.67	0.42	0.11	0.20	0.67 *	0.02	0.00	0.00	-0.25	-0.23	0.42 *	-0.18
K	86	B	-1.29	-2.84	0.85	0.41	0.05	0.85 *	0.08	0.03	0.00	0.00	-0.25	0.41 *	-0.19	-0.26
K	87	B	1.38	-1.43	0.36	0.33	0.22	0.36 *	0.13	0.28	0.00	0.00	-0.22	0.33 *	-0.13	-0.05
K	88	A	-0.42	1.04	0.73	0.54	0.73 *	0.09	0.09	0.09	0.00	0.00	0.54 *	-0.26	-0.28	-0.28
K	89	A	-0.28	0.00	0.70	0.31	0.70 *	0.10	0.15	0.05	0.00	0.00	0.31 *	-0.17	-0.16	-0.16
K	90	C	1.68	0.00	0.31	0.07	0.36	0.18	0.31 *	0.15	0.00	0.00	0.10 ?	-0.11	0.07 *	-0.09
K	91	B	-1.18	0.00	0.84	0.51	0.10	0.84 *	0.03	0.03	0.00	0.00	-0.31	0.51 *	-0.26	-0.27
K	92	A	-2.00	0.00	0.92	0.42	0.92 *	0.04	0.03	0.02	0.00	0.00	0.42 *	-0.25	-0.24	-0.21
K	93	B	0.68	0.00	0.51	0.25	0.39	0.51 *	0.05	0.04	0.00	0.00	-0.09	0.25 *	-0.16	-0.19
K	94	D	-0.89	0.00	0.80	0.36	0.09	0.04	0.07	0.80 *	0.00	0.00	-0.12	-0.32	-0.19	0.36 *
K	95	C	0.41	0.00	0.57	0.11	0.23	0.05	0.57 *	0.15	0.00	0.00	0.03 ?	-0.22	0.11 *	-0.04
K	96	A	-1.86	0.00	0.91	0.42	0.91 *	0.04	0.04	0.02	0.00	0.00	0.42 *	-0.24	-0.24	-0.21
K	97	B	-0.25	0.00	0.70	0.33	0.08	0.70 *	0.18	0.04	0.00	0.00	-0.29	0.33 *	-0.12	-0.13
K	98	B	0.38	0.00	0.57	0.37	0.14	0.57 *	0.23	0.06	0.00	0.00	-0.18	0.37 *	-0.20	-0.14
K	99	D	0.47	0.00	0.56	0.32	0.12	0.27	0.05	0.56 *	0.00	0.00	-0.23	-0.04	-0.29	0.32 *
K	100	A	-0.85	0.00	0.79	0.49	0.79 *	0.06	0.07	0.07	0.00	0.00	0.49 *	-0.28	-0.23	-0.27
K	101	A	-0.61	0.00	0.76	0.28	0.76 *	0.09	0.04	0.11	0.00	0.00	0.28 *	-0.21	-0.28	-0.01
K	103	A	1.40	0.00	0.36	0.10	0.36 *	0.17	0.08	0.39	0.01	0.00	0.10 *	-0.23	-0.23	0.22 ?
K	104	A	1.37	0.00	0.37	0.13	0.37 *	0.38	0.11	0.14	0.00	0.00	0.13 *	0.08 ?	-0.20	-0.09
K	105	B	0.84	0.00	0.48	0.32	0.20	0.48 *	0.14	0.18	0.00	0.00	-0.11	0.32 *	-0.18	-0.13
K	106	B	-0.93	0.00	0.81	0.35	0.06	0.81 *	0.03	0.10	0.00	0.00	-0.29	0.35 *	-0.22	-0.09
K	107	A	0.55	0.00	0.54	0.49	0.54 *	0.08	0.20	0.18	0.00	0.00	0.49 *	-0.31	-0.17	-0.22
K	109	D	0.34	0.00	0.58	0.51	0.17	0.19	0.05	0.58 *	0.00	0.00	-0.24	-0.24	-0.26	0.51 *

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
L	85	B	-1.14	0.00	0.83	0.45	0.08	0.83 *	0.07	0.02	0.00	0.00	-0.29	0.45 *	-0.25	-0.17
L	86	D	-0.60	-2.84	0.75	0.33	0.11	0.02	0.11	0.75 *	0.00	0.00	-0.23	-0.19	-0.12	0.33 *
L	87	D	-0.14	-1.43	0.67	0.56	0.06	0.17	0.10	0.67 *	0.00	0.00	-0.28	-0.39	-0.17	0.56 *
L	88	B	-1.18	1.04	0.83	0.45	0.04	0.83 *	0.10	0.03	0.00	0.00	-0.23	0.45 *	-0.27	-0.24
L	89	C	0.79	0.00	0.49	0.33	0.06	0.40	0.49 *	0.06	0.00	0.00	-0.22	-0.08	0.33 *	-0.32
L	90	D	-0.31	0.00	0.70	0.46	0.17	0.05	0.07	0.70 *	0.00	0.00	-0.40	-0.10	-0.14	0.46 *
L	91	C	-0.40	0.00	0.72	0.45	0.01	0.07	0.72 *	0.20	0.00	0.00	-0.19	-0.27	0.45 *	-0.28
L	92	A	-0.20	0.00	0.68	0.27	0.68 *	0.06	0.19	0.07	0.00	0.00	0.27 *	-0.19	-0.17	-0.04
L	93	B	-0.38	0.00	0.72	0.48	0.14	0.72 *	0.07	0.08	0.00	0.00	-0.30	0.48 *	-0.26	-0.17
L	95	C	1.06	0.00	0.43	0.30	0.23	0.03	0.43 *	0.30	0.00	0.00	-0.17	-0.23	0.30 *	-0.07
L	96	C	-0.15	0.00	0.68	0.40	0.09	0.11	0.68 *	0.12	0.00	0.00	-0.20	-0.18	0.40 *	-0.22
L	97	A	-1.66	0.00	0.89	0.40	0.89 *	0.07	0.02	0.03	0.00	0.00	0.40 *	-0.24	-0.22	-0.22
L	98	C	0.41	0.00	0.56	0.50	0.14	0.15	0.56 *	0.15	0.00	0.00	-0.29	-0.23	0.50 *	-0.18
L	99	A	0.90	0.00	0.46	0.35	0.46 *	0.03	0.30	0.20	0.00	0.00	0.35 *	-0.24	-0.15	-0.17
L	100	C	-0.16	0.00	0.68	0.42	0.16	0.07	0.68 *	0.09	0.00	0.00	-0.20	-0.29	0.42 *	-0.17
L	101	C	0.03	0.00	0.64	0.38	0.18	0.09	0.64 *	0.09	0.00	0.00	-0.08	-0.23	0.38 *	-0.30
L	103	C	-0.04	0.00	0.65	0.46	0.13	0.13	0.65 *	0.09	0.01	0.00	-0.30	-0.18	0.46 *	-0.20
L	104	B	0.97	0.00	0.45	0.29	0.18	0.45 *	0.10	0.27	0.00	0.00	-0.26	0.29 *	-0.19	0.03 ?
L	105	A	0.79	0.00	0.49	0.35	0.49 *	0.05	0.21	0.25	0.00	0.00	0.35 *	-0.30	-0.23	-0.03
L	106	C	0.51	0.00	0.54	0.41	0.25	0.06	0.54 *	0.15	0.00	0.00	-0.23	-0.21	0.41 *	-0.14
L	107	C	1.19	0.00	0.40	0.26	0.14	0.30	0.40 *	0.16	0.00	0.00	-0.07	-0.15	0.26 *	-0.09
L	108	D	0.80	0.00	0.48	0.37	0.29	0.18	0.04	0.48 *	0.00	0.00	-0.17	-0.15	-0.25	0.37 *
L	109	A	1.41	0.00	0.36	0.33	0.36 *	0.08	0.43	0.13	0.00	0.00	0.33 *	-0.17	-0.11	-0.16

## Appendix H: 2002 PSSA Grade Five Item Analysis

### Multiple Choice Items for Reading

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	26	A	-0.10	0.48	0.66	0.30	0.66 *	0.05	0.04	0.24	0.00	0.00	0.30 *	-0.22	-0.19	-0.12
W	27	B	-0.51	-0.25	0.72	0.45	0.05	0.72 *	0.15	0.08	0.00	0.00	-0.29	0.45 *	-0.27	-0.16
W	28	B	-0.58	-0.18	0.75	0.32	0.15	0.75 *	0.07	0.04	0.00	0.00	-0.08	0.32 *	-0.30	-0.18
W	29	D	-0.02	0.38	0.64	0.46	0.11	0.09	0.15	0.64 *	0.00	0.00	-0.19	-0.20	-0.28	0.46 *
W	30	A	-0.89	-0.23	0.79	0.49	0.79 *	0.08	0.08	0.05	0.00	0.00	0.49 *	-0.23	-0.25	-0.31
W	31	B	-0.16	-0.24	0.66	0.43	0.17	0.66 *	0.11	0.05	0.00	0.00	-0.28	0.43 *	-0.13	-0.26
W	32	C	-0.65	-0.19	0.74	0.54	0.08	0.13	0.74 *	0.05	0.00	0.00	-0.23	-0.35	0.54 *	-0.26
W	33	C	-1.01	-0.21	0.80	0.53	0.08	0.06	0.80 *	0.06	0.00	0.00	-0.31	-0.29	0.53 *	-0.25
W	34	B	-0.04	-0.13	0.65	0.40	0.15	0.65 *	0.10	0.11	0.00	0.00	-0.02	0.40 *	-0.26	-0.34
W	35	B	1.35	0.55	0.37	0.14	0.26	0.37 *	0.25	0.11	0.00	0.00	-0.09	0.14 *	0.04 ?	-0.12
W	36	D	1.11	-0.28	0.42	0.31	0.35	0.07	0.16	0.42 *	0.00	0.00	-0.07	-0.18	-0.20	0.31 *
W	37	D	-0.15	1.78	0.66	0.47	0.07	0.07	0.20	0.66 *	0.00	0.00	-0.31	-0.31	-0.16	0.47 *
W	38	D	-0.03	0.00	0.65	0.47	0.08	0.05	0.22	0.65 *	0.00	0.00	-0.23	-0.27	-0.24	0.47 *
W	39	C	-0.67	0.00	0.76	0.35	0.06	0.16	0.76 *	0.02	0.00	0.00	-0.30	-0.15	0.35 *	-0.15
W	40	B	-1.52	0.00	0.86	0.56	0.06	0.86 *	0.05	0.04	0.00	0.00	-0.33	0.56 *	-0.30	-0.27
W	41	D	0.54	0.00	0.54	0.33	0.19	0.14	0.14	0.54 *	0.00	0.00	-0.12	-0.23	-0.10	0.33 *
W	42	A	-0.68	0.00	0.75	0.33	0.75 *	0.18	0.04	0.03	0.00	0.00	0.33 *	-0.17	-0.21	-0.20
W	43	A	-0.40	0.00	0.71	0.47	0.71 *	0.10	0.09	0.09	0.00	0.00	0.47 *	-0.26	-0.26	-0.19
W	44	B	-0.46	0.00	0.72	0.38	0.04	0.72 *	0.15	0.09	0.00	0.00	-0.28	0.38 *	-0.29	-0.04
W	45	D	1.32	0.00	0.37	0.30	0.30	0.29	0.04	0.37 *	0.00	0.00	-0.03	-0.17	-0.26	0.30 *
W	46	C	0.19	0.00	0.61	0.31	0.22	0.10	0.61 *	0.07	0.00	0.00	-0.11	-0.15	0.31 *	-0.22
W	47	C	-1.04	0.00	0.81	0.53	0.06	0.06	0.81 *	0.07	0.00	0.00	-0.24	-0.33	0.53 *	-0.27
W	48	B	-0.11	0.00	0.66	0.29	0.07	0.66 *	0.23	0.04	0.00	0.00	-0.23	0.29 *	-0.08	-0.22
W	49	A	-0.68	0.00	0.75	0.36	0.75 *	0.10	0.11	0.03	0.00	0.00	0.36 *	-0.18	-0.18	-0.22
W	50	A	0.75	0.00	0.48	0.28	0.48 *	0.10	0.05	0.37	0.00	0.00	0.28 *	-0.22	-0.26	-0.03
W	51	C	0.24	0.00	0.58	0.42	0.19	0.12	0.58 *	0.10	0.00	0.00	-0.22	-0.17	0.42 *	-0.20
W	159	A	-1.66	0.00	0.88	0.37	0.88 *	0.02	0.03	0.08	0.00	0.00	0.37 *	-0.16	-0.25	-0.22
W	160	D	-2.12	0.00	0.91	0.41	0.03	0.02	0.03	0.91 *	0.00	0.00	-0.22	-0.26	-0.21	0.41 *
W	161	D	-1.28	0.00	0.84	0.53	0.06	0.08	0.03	0.84 *	0.00	0.00	-0.36	-0.26	-0.25	0.53 *
W	162	B	-1.44	0.00	0.85	0.51	0.05	0.85 *	0.06	0.05	0.00	0.00	-0.30	0.51 *	-0.22	-0.33
W	163	A	0.29	0.00	0.59	0.20	0.59 *	0.30	0.09	0.02	0.00	0.00	0.20 *	0.05 ?	-0.30	-0.25
W	164	D	-0.50	0.00	0.73	0.50	0.15	0.08	0.05	0.73 *	0.00	0.00	-0.22	-0.32	-0.29	0.50 *
W	165	D	0.67	0.00	0.52	0.19	0.07	0.16	0.24	0.52 *	0.00	0.00	-0.17	-0.10	-0.04	0.19 *
W	166	D	-0.15	0.00	0.67	0.40	0.11	0.07	0.14	0.67 *	0.00	0.00	-0.16	-0.29	-0.17	0.40 *
W	167	C	-1.16	0.00	0.83	0.45	0.05	0.07	0.83 *	0.06	0.00	0.00	-0.27	-0.19	0.45 *	-0.28
W	168	D	1.06	0.00	0.42	0.32	0.16	0.33	0.09	0.42 *	0.00	0.00	-0.14	-0.09	-0.21	0.32 *
W	169	A	-2.49	-0.99	0.93	0.48	0.93 *	0.03	0.02	0.01	0.00	0.00	0.48 *	-0.31	-0.29	-0.20
W	170	B	-1.31	0.00	0.84	0.42	0.09	0.84 *	0.04	0.03	0.00	0.00	-0.19	0.42 *	-0.29	-0.26

**Appendix H: 2002 PSSA Grade Five Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	171	D	-0.37	0.00	0.69	0.44	0.07	0.12	0.12	0.69 *	0.00	0.00	-0.25	-0.24	-0.20	0.44 *
W	172	C	-0.32	-0.07	0.70	0.25	0.19	0.06	0.70 *	0.04	0.00	0.00	-0.08	-0.19	0.25 *	-0.18
W	173	B	-0.60	-0.17	0.74	0.54	0.16	0.74 *	0.06	0.04	0.00	0.00	-0.35	0.54 *	-0.27	-0.22
W	174	C	-1.36	-0.24	0.85	0.54	0.05	0.08	0.85 *	0.02	0.00	0.00	-0.34	-0.31	0.54 *	-0.23
W	175	A	-1.09	-0.45	0.81	0.49	0.81 *	0.09	0.06	0.04	0.00	0.00	0.49 *	-0.22	-0.26	-0.33
W	176	A	-0.14	-0.24	0.68	0.51	0.68 *	0.08	0.11	0.14	0.00	0.00	0.51 *	-0.23	-0.17	-0.36
W	177	C	0.78	-0.20	0.49	0.42	0.12	0.20	0.49 *	0.19	0.00	0.00	-0.25	-0.12	0.42 *	-0.20
W	178	A	-1.76	-0.15	0.88	0.54	0.88 *	0.05	0.03	0.04	0.00	0.00	0.54 *	-0.33	-0.28	-0.28
W	179	C	-1.34	1.90	0.84	0.27	0.10	0.04	0.84 *	0.01	0.00	0.00	-0.11	-0.20	0.27 *	-0.19
W	180	B	0.15	0.00	0.62	0.14	0.04	0.62 *	0.31	0.04	0.00	0.00	-0.27	0.14 *	0.09 ?	-0.29
W	181	D	0.09	0.00	0.61	0.54	0.22	0.05	0.11	0.61 *	0.00	0.00	-0.29	-0.29	-0.24	0.54 *
W	182	A	-0.84	0.00	0.78	0.54	0.78 *	0.09	0.04	0.09	0.00	0.00	0.54 *	-0.29	-0.27	-0.30
W	183	C	-0.36	0.00	0.70	0.48	0.08	0.14	0.70 *	0.07	0.00	0.00	-0.28	-0.23	0.48 *	-0.24

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	94	B	0.43	0.02	0.41	0.17	0.27	0.41 *	0.11	0.20	0.00	0.00	-0.11	0.17 *	-0.12	0.02
A	95	A	-1.59	0.03	0.80	0.48	0.80 *	0.07	0.08	0.05	0.00	0.00	0.48 *	-0.25	-0.31	-0.19
A	96	D	-1.44	0.02	0.78	0.61	0.15	0.04	0.03	0.78 *	0.00	0.00	-0.40	-0.35	-0.23	0.61 *
A	97	C	1.29	0.02	0.25	0.06	0.38	0.21	0.25 *	0.16	0.00	0.00	-0.03	0.03 ?	0.06 *	-0.06
A	98	A	-2.18	0.03	0.87	0.50	0.87 *	0.03	0.05	0.04	0.00	0.00	0.50 *	-0.25	-0.30	-0.26
A	99	C	-1.64	0.03	0.81	0.32	0.05	0.11	0.81 *	0.04	0.00	0.00	-0.28	-0.09	0.32 *	-0.19
A	100	B	-0.17	0.02	0.54	0.35	0.09	0.54 *	0.10	0.27	0.01	0.00	-0.25	0.35 *	-0.21	-0.08
A	101	D	-1.40	0.02	0.77	0.46	0.09	0.10	0.04	0.77 *	0.00	0.00	-0.16	-0.29	-0.31	0.46 *
A	102	A	0.40	0.02	0.42	0.28	0.42 *	0.23	0.09	0.26	0.00	0.00	0.28 *	-0.03	-0.25	-0.13
A	103	B	-1.41	0.02	0.77	0.46	0.10	0.77 *	0.07	0.05	0.00	0.00	-0.26	0.46 *	-0.26	-0.18
A	104	D	-0.98	0.02	0.70	0.54	0.07	0.18	0.05	0.70 *	0.00	0.00	-0.29	-0.32	-0.23	0.54 *
A	105	A	0.53	0.02	0.39	0.21	0.39 *	0.13	0.39	0.09	0.00	0.00	0.21 *	-0.10	-0.04	-0.16
A	106	B	-1.85	0.03	0.83	0.45	0.10	0.83 *	0.05	0.02	0.00	0.00	-0.21	0.45 *	-0.32	-0.24
A	107	A	-0.25	0.02	0.56	0.34	0.56 *	0.29	0.10	0.06	0.00	0.00	0.34 *	-0.17	-0.17	-0.17
A	108	B	-0.85	0.02	0.68	0.37	0.15	0.68 *	0.08	0.10	0.00	0.00	-0.05	0.37 *	-0.26	-0.28
A	109	D	-2.21	0.03	0.87	0.51	0.03	0.03	0.06	0.87 *	0.00	0.00	-0.26	-0.28	-0.29	0.51 *
A	111	D	-0.61	0.02	0.63	0.18	0.27	0.05	0.05	0.63 *	0.00	0.00	0.03 ?	-0.27	-0.17	0.18 *
A	112	A	-1.75	0.03	0.82	0.34	0.82 *	0.13	0.03	0.02	0.01	0.00	0.34 *	-0.19	-0.21	-0.20
A	113	D	-2.07	0.03	0.86	0.54	0.06	0.03	0.05	0.86 *	0.00	0.00	-0.27	-0.31	-0.31	0.54 *
A	114	B	-1.12	0.02	0.73	0.39	0.14	0.73 *	0.08	0.05	0.00	0.00	-0.17	0.39 *	-0.25	-0.18
A	115	A	0.41	0.02	0.42	0.31	0.42 *	0.18	0.12	0.28	0.00	0.00	0.31 *	-0.11	-0.24	-0.07
A	116	D	-1.66	0.03	0.81	0.48	0.07	0.09	0.03	0.81 *	0.00	0.00	-0.30	-0.20	-0.30	0.48 *
A	117	B	-0.73	0.02	0.66	0.51	0.16	0.66 *	0.09	0.10	0.00	0.00	-0.26	0.51 *	-0.25	-0.24
A	118	A	-0.98	0.02	0.70	0.55	0.70 *	0.07	0.19	0.04	0.00	0.00	0.55 *	-0.30	-0.31	-0.26
A	119	D	-1.43	0.02	0.78	0.59	0.03	0.10	0.08	0.78 *	0.00	0.00	-0.28	-0.31	-0.34	0.59 *
A	120	A	-1.44	0.02	0.78	0.54	0.78 *	0.03	0.10	0.09	0.00	0.00	0.54 *	-0.27	-0.33	-0.26
A	121	C	4.13	0.06	0.18	0.16	0.21	0.56 ?	0.18 *	0.05	0.00	0.00	-0.22	0.13 ?	0.16 *	-0.14
A	122	C	-0.79	0.02	0.67	0.43	0.14	0.13	0.67 *	0.06	0.00	0.00	-0.32	-0.13	0.43 *	-0.19
A	123	D	-0.24	0.02	0.56	0.42	0.10	0.17	0.17	0.56 *	0.01	0.00	-0.22	-0.13	-0.23	0.42 *
A	124	B	-1.04	0.02	0.71	0.43	0.04	0.71 *	0.09	0.16	0.00	0.00	-0.28	0.43 *	-0.18	-0.22
A	125	B	-0.50	0.02	0.61	0.46	0.12	0.61 *	0.21	0.06	0.01	0.00	-0.29	0.46 *	-0.19	-0.20
A	126	B	-1.71	0.03	0.82	0.37	0.09	0.82 *	0.05	0.04	0.00	0.00	-0.12	0.37 *	-0.26	-0.25
A	127	B	-1.76	0.03	0.82	0.49	0.03	0.82 *	0.12	0.02	0.00	0.00	-0.29	0.49 *	-0.29	-0.24
A	128	B	-1.62	0.03	0.80	0.33	0.07	0.80 *	0.07	0.06	0.00	0.00	-0.20	0.33 *	-0.14	-0.18
A	129	D	0.22	0.02	0.46	0.44	0.08	0.15	0.31	0.46 *	0.01	0.00	-0.23	-0.29	-0.10	0.44 *

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
B	94	D	0.66	0.02	0.37	0.22	0.15	0.16	0.32	0.37 *	0.01	0.00	-0.04	-0.04	-0.15	0.22 *
B	95	B	-0.79	0.02	0.67	0.47	0.08	0.67 *	0.11	0.15	0.00	0.00	-0.19	0.47 *	-0.20	-0.31
B	96	C	-0.61	0.02	0.63	0.45	0.08	0.12	0.63 *	0.17	0.00	0.00	-0.23	-0.20	0.45 *	-0.23
B	97	D	-2.06	0.03	0.86	0.44	0.06	0.03	0.06	0.86 *	0.00	0.00	-0.16	-0.24	-0.33	0.44 *
B	98	D	-0.18	0.02	0.54	0.36	0.26	0.04	0.16	0.54 *	0.00	0.00	-0.16	-0.28	-0.14	0.36 *
B	99	D	0.13	0.02	0.48	0.45	0.15	0.11	0.25	0.48 *	0.00	0.00	-0.18	-0.14	-0.27	0.45 *
B	100	C	-0.14	0.02	0.53	0.45	0.04	0.19	0.53 *	0.23	0.00	0.00	-0.22	-0.26	0.45 *	-0.18
B	101	B	-0.57	0.02	0.62	0.18	0.03	0.62 *	0.26	0.09	0.00	0.00	-0.19	0.18 *	0.02 ?	-0.21
B	102	C	-1.76	0.03	0.82	0.55	0.07	0.05	0.82 *	0.06	0.00	0.00	-0.32	-0.28	0.55 *	-0.27
B	103	A	0.18	0.02	0.46	0.21	0.46 *	0.05	0.35	0.13	0.00	0.00	0.21 *	-0.31	-0.03	-0.06
B	104	C	-0.41	0.02	0.59	0.29	0.18	0.07	0.59 *	0.15	0.00	0.00	-0.12	-0.32	0.29 *	-0.03
B	105	D	-0.01	0.02	0.51	0.42	0.06	0.10	0.33	0.51 *	0.00	0.00	-0.23	-0.22	-0.18	0.42 *
B	106	B	-0.52	0.02	0.61	0.42	0.09	0.61 *	0.05	0.24	0.00	0.00	-0.31	0.42 *	-0.18	-0.17
B	107	B	-0.86	0.02	0.68	0.31	0.06	0.68 *	0.24	0.02	0.00	0.00	-0.29	0.31 *	-0.11	-0.19
B	108	B	-0.93	0.02	0.69	0.43	0.10	0.69 *	0.15	0.05	0.00	0.00	-0.19	0.43 *	-0.27	-0.19
B	109	D	0.75	0.02	0.35	0.31	0.16	0.37	0.12	0.35 *	0.00	0.00	-0.04	-0.10	-0.26	0.31 *
B	110	C	-0.70	0.02	0.65	0.21	0.29	0.04	0.65 *	0.03	0.00	0.00	-0.02	-0.27	0.21 *	-0.21
B	111	D	-1.65	0.03	0.81	0.39	0.02	0.13	0.04	0.81 *	0.00	0.00	-0.27	-0.18	-0.26	0.39 *
B	112	A	-1.63	0.03	0.81	0.54	0.81 *	0.09	0.04	0.06	0.01	0.00	0.54 *	-0.36	-0.26	-0.22
B	113	C	-1.25	0.02	0.75	0.47	0.06	0.15	0.75 *	0.04	0.00	0.00	-0.29	-0.26	0.47 *	-0.19
B	114	B	-0.64	0.02	0.64	0.46	0.28	0.64 *	0.05	0.03	0.00	0.00	-0.29	0.46 *	-0.21	-0.21
B	115	B	1.05	0.02	0.29	0.18	0.21	0.29 *	0.35	0.15	0.01	0.00	0.08 ?	0.18 *	-0.09	-0.18
B	116	A	-1.74	0.03	0.82	0.47	0.82 *	0.06	0.04	0.08	0.00	0.00	0.47 *	-0.28	-0.28	-0.21
B	117	C	-1.72	0.03	0.82	0.46	0.04	0.07	0.82 *	0.08	0.00	0.00	-0.23	-0.29	0.46 *	-0.22
B	118	C	-1.59	0.03	0.80	0.54	0.08	0.09	0.80 *	0.02	0.00	0.00	-0.35	-0.29	0.54 *	-0.21
B	119	B	-1.20	0.02	0.74	0.56	0.15	0.74 *	0.04	0.06	0.00	0.00	-0.29	0.56 *	-0.32	-0.29
B	120	C	0.07	0.02	0.49	0.40	0.36	0.10	0.49 *	0.05	0.00	0.00	-0.12	-0.28	0.40 *	-0.24
B	121	C	-0.16	0.02	0.54	0.45	0.16	0.11	0.54 *	0.20	0.00	0.00	-0.27	-0.21	0.45 *	-0.14
B	122	B	0.05	0.02	0.50	0.25	0.27	0.50 *	0.09	0.14	0.00	0.00	0.15 ?	0.25 *	-0.19	-0.36
B	123	A	-0.91	0.02	0.69	0.44	0.69 *	0.07	0.07	0.17	0.00	0.00	0.44 *	-0.32	-0.28	-0.12
B	124	B	-0.84	0.02	0.68	0.46	0.09	0.68 *	0.11	0.13	0.01	0.00	-0.19	0.46 *	-0.31	-0.18
B	125	D	-0.46	0.02	0.60	0.36	0.11	0.13	0.15	0.60 *	0.00	0.00	0.03	-0.30	-0.22	0.36 *
B	126	C	-0.77	0.02	0.66	0.51	0.20	0.09	0.66 *	0.04	0.00	0.00	-0.23	-0.32	0.51 *	-0.26
B	127	D	-0.99	0.02	0.70	0.49	0.16	0.11	0.03	0.70 *	0.00	0.00	-0.28	-0.26	-0.23	0.49 *
B	128	C	0.20	0.02	0.46	0.33	0.36	0.09	0.46 *	0.09	0.01	0.00	-0.17	-0.18	0.33 *	-0.10
B	129	B	0.49	0.02	0.40	0.10	0.09	0.40 *	0.24	0.26	0.01	0.00	-0.14	0.10 *	0.03 ?	-0.03

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	95	C	-1.09	0.02	0.72	0.48	0.02	0.21	0.72 *	0.05	0.00	0.00	-0.21	-0.27	0.48 *	-0.31
C	96	D	-1.18	0.02	0.74	0.54	0.04	0.10	0.12	0.74 *	0.00	0.00	-0.18	-0.32	-0.31	0.54 *
C	97	D	-0.66	0.02	0.64	0.55	0.08	0.11	0.17	0.64 *	0.00	0.00	-0.21	-0.23	-0.35	0.55 *
C	98	A	-1.39	0.02	0.77	0.56	0.77 *	0.11	0.06	0.06	0.00	0.00	0.56 *	-0.35	-0.27	-0.25
C	99	B	-3.00	0.04	0.94	0.44	0.02	0.94 *	0.02	0.02	0.00	0.00	-0.25	0.44 *	-0.25	-0.23
C	100	C	-1.17	0.02	0.73	0.45	0.10	0.07	0.73 *	0.09	0.01	0.00	-0.26	-0.27	0.45 *	-0.17
C	101	A	-1.53	0.02	0.79	0.42	0.79 *	0.07	0.12	0.02	0.00	0.00	0.42 *	-0.26	-0.20	-0.25
C	102	C	-2.77	0.04	0.92	0.47	0.04	0.02	0.92 *	0.01	0.00	0.00	-0.29	-0.28	0.47 *	-0.22
C	103	B	-1.59	0.03	0.80	0.51	0.07	0.80 *	0.04	0.09	0.00	0.00	-0.23	0.51 *	-0.28	-0.30
C	104	A	-1.33	0.02	0.76	0.49	0.76 *	0.05	0.15	0.04	0.00	0.00	0.49 *	-0.33	-0.29	-0.13
C	105	D	0.29	0.02	0.45	0.36	0.18	0.23	0.14	0.45 *	0.00	0.00	-0.19	-0.04	-0.24	0.36 *
C	106	B	-0.24	0.02	0.56	0.49	0.17	0.56 *	0.23	0.05	0.01	0.00	-0.23	0.49 *	-0.27	-0.19
C	107	B	-1.92	0.03	0.84	0.46	0.09	0.84 *	0.04	0.03	0.00	0.00	-0.28	0.46 *	-0.26	-0.20
C	108	B	-1.93	0.03	0.84	0.36	0.04	0.84 *	0.07	0.05	0.00	0.00	-0.21	0.36 *	-0.23	-0.14
C	109	B	-1.05	0.02	0.71	0.31	0.17	0.71 *	0.03	0.08	0.00	0.00	-0.13	0.31 *	-0.27	-0.14
C	110	B	-1.22	0.02	0.74	0.47	0.10	0.74 *	0.10	0.06	0.00	0.00	-0.31	0.47 *	-0.25	-0.15
C	111	D	-1.20	0.02	0.74	0.50	0.08	0.10	0.08	0.74 *	0.00	0.00	-0.27	-0.25	-0.25	0.50 *
C	112	A	-1.24	0.02	0.75	0.40	0.75 *	0.10	0.08	0.07	0.01	0.00	0.40 *	-0.22	-0.26	-0.10
C	113	A	-1.13	0.02	0.73	0.26	0.73 *	0.04	0.05	0.19	0.00	0.00	0.26 *	-0.26	-0.23	-0.03
C	114	A	-1.88	0.03	0.84	0.49	0.84 *	0.06	0.06	0.04	0.00	0.00	0.49 *	-0.25	-0.35	-0.17
C	115	A	-0.67	0.02	0.64	0.38	0.64 *	0.15	0.16	0.05	0.00	0.00	0.38 *	-0.28	-0.09	-0.21
C	116	C	-0.94	0.02	0.69	0.40	0.05	0.10	0.69 *	0.15	0.00	0.00	-0.29	-0.29	0.40 *	-0.07
C	117	B	-1.46	0.02	0.78	0.53	0.07	0.78 *	0.04	0.11	0.00	0.00	-0.27	0.53 *	-0.30	-0.29
C	118	D	-1.60	0.03	0.80	0.50	0.07	0.06	0.07	0.80 *	0.00	0.00	-0.33	-0.18	-0.28	0.50 *
C	119	B	-0.19	0.02	0.55	0.29	0.12	0.55 *	0.09	0.24	0.00	0.00	-0.18	0.29 *	-0.24	-0.04
C	120	A	-1.10	0.02	0.72	0.46	0.72 *	0.08	0.08	0.12	0.00	0.00	0.46 *	-0.27	-0.18	-0.24
C	121	C	-2.11	0.03	0.86	0.55	0.03	0.05	0.86 *	0.05	0.00	0.00	-0.28	-0.31	0.55 *	-0.30
C	122	C	-1.80	0.03	0.83	0.47	0.06	0.05	0.83 *	0.06	0.00	0.00	-0.23	-0.29	0.47 *	-0.23
C	123	A	0.11	0.02	0.48	0.38	0.48 *	0.12	0.11	0.28	0.00	0.00	0.38 *	-0.32	-0.20	-0.04
C	124	C	0.52	0.02	0.39	0.24	0.14	0.31	0.39 *	0.16	0.00	0.00	-0.23	-0.07	0.24 *	0.00 ?
C	125	B	4.05	0.06	0.32	0.08	0.31	0.32 *	0.28	0.09	0.00	0.00	0.14 ?	0.08 *	-0.05	-0.24
C	126	D	0.17	0.02	0.47	0.45	0.12	0.30	0.10	0.47 *	0.01	0.00	-0.20	-0.19	-0.21	0.45 *
C	127	D	-1.23	0.02	0.74	0.47	0.05	0.15	0.05	0.74 *	0.00	0.00	-0.34	-0.20	-0.25	0.47 *
C	128	D	-2.69	0.03	0.91	0.46	0.02	0.03	0.03	0.91 *	0.00	0.00	-0.25	-0.24	-0.26	0.46 *
C	129	C	0.13	0.02	0.48	0.21	0.25	0.15	0.48 *	0.12	0.01	0.00	-0.20	-0.03	0.21 *	0.00

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
D	95	B	-1.44	0.02	0.78	0.41	0.11	0.78 *	0.09	0.03	0.00	0.00	-0.27	0.41 *	-0.21	-0.15
D	96	A	1.24	0.02	0.26	0.20	0.26 *	0.13	0.24	0.37	0.01	0.00	0.20 *	-0.23	-0.30	0.26 ?
D	97	D	-1.21	0.02	0.74	0.51	0.14	0.08	0.04	0.74 *	0.00	0.00	-0.35	-0.19	-0.24	0.51 *
D	98	A	-1.39	0.02	0.77	0.45	0.77 *	0.07	0.03	0.13	0.00	0.00	0.45 *	-0.25	-0.24	-0.25
D	99	C	-1.18	0.02	0.73	0.52	0.11	0.12	0.73 *	0.03	0.00	0.00	-0.34	-0.24	0.52 *	-0.24
D	100	A	-2.00	0.03	0.85	0.46	0.85 *	0.05	0.03	0.06	0.00	0.00	0.46 *	-0.24	-0.26	-0.26
D	101	B	-0.82	0.02	0.67	0.47	0.21	0.67 *	0.10	0.02	0.00	0.00	-0.22	0.47 *	-0.31	-0.24
D	102	C	-1.65	0.03	0.81	0.45	0.08	0.06	0.81 *	0.05	0.00	0.00	-0.21	-0.25	0.45 *	-0.26
D	103	A	-1.09	0.02	0.72	0.48	0.72 *	0.09	0.11	0.08	0.00	0.00	0.48 *	-0.32	-0.22	-0.21
D	104	C	-1.65	0.03	0.81	0.42	0.07	0.05	0.81 *	0.07	0.00	0.00	-0.19	-0.32	0.42 *	-0.18
D	105	B	0.01	0.02	0.50	0.26	0.26	0.50 *	0.15	0.09	0.00	0.00	-0.08	0.26 *	-0.15	-0.13
D	106	D	-0.62	0.02	0.63	0.47	0.08	0.19	0.10	0.63 *	0.00	0.00	-0.22	-0.24	-0.25	0.47 *
D	107	B	-0.57	0.02	0.62	0.36	0.23	0.62 *	0.07	0.08	0.00	0.00	-0.16	0.36 *	-0.13	-0.26
D	108	B	-0.28	0.02	0.56	0.27	0.05	0.56 *	0.30	0.08	0.00	0.00	-0.26	0.27 *	-0.09	-0.11
D	109	D	0.63	0.02	0.37	0.31	0.34	0.03	0.26	0.37 *	0.00	0.00	-0.16	-0.28	-0.05	0.31 *
D	110	C	-0.31	0.02	0.57	0.49	0.08	0.13	0.57 *	0.22	0.00	0.00	-0.20	-0.26	0.49 *	-0.23
D	111	D	-0.40	0.02	0.59	0.52	0.07	0.19	0.15	0.59 *	0.00	0.00	-0.21	-0.35	-0.17	0.52 *
D	112	A	-0.80	0.02	0.67	0.32	0.67 *	0.20	0.09	0.04	0.00	0.00	0.32 *	-0.05	-0.26	-0.27
D	113	D	0.83	0.02	0.33	0.40	0.30	0.08	0.28	0.33 *	0.00	0.00	-0.12	-0.18	-0.17	0.40 *
D	114	B	-0.66	0.02	0.64	0.44	0.08	0.64 *	0.08	0.20	0.00	0.00	-0.23	0.44 *	-0.27	-0.17
D	115	D	4.22	0.07	0.44	0.37	0.43	0.08	0.05	0.44 *	0.00	0.00	-0.06	-0.30	-0.29	0.37 *
D	116	A	-0.54	0.02	0.62	0.43	0.62 *	0.17	0.12	0.09	0.00	0.00	0.43 *	-0.26	-0.14	-0.21
D	117	A	-1.27	0.02	0.75	0.50	0.75 *	0.10	0.07	0.08	0.00	0.00	0.50 *	-0.24	-0.33	-0.21
D	118	A	-1.05	0.02	0.71	0.47	0.71 *	0.12	0.06	0.10	0.00	0.00	0.47 *	-0.26	-0.30	-0.16
D	119	A	0.26	0.02	0.45	0.38	0.45 *	0.19	0.20	0.16	0.00	0.00	0.38 *	-0.09	-0.21	-0.18
D	120	A	-0.75	0.02	0.66	0.52	0.66 *	0.06	0.16	0.13	0.00	0.00	0.52 *	-0.32	-0.26	-0.22
D	121	B	-0.45	0.02	0.60	0.41	0.09	0.60 *	0.12	0.18	0.01	0.00	-0.23	0.41 *	-0.24	-0.13
D	122	B	-1.53	0.02	0.79	0.49	0.13	0.79 *	0.05	0.02	0.00	0.00	-0.34	0.49 *	-0.20	-0.23
D	123	A	0.75	0.02	0.35	0.29	0.35 *	0.25	0.27	0.12	0.01	0.00	0.29 *	-0.05	-0.18	-0.08
D	124	D	-1.09	0.02	0.72	0.51	0.06	0.08	0.13	0.72 *	0.00	0.00	-0.27	-0.29	-0.22	0.51 *
D	125	A	-0.68	0.02	0.64	0.37	0.64 *	0.15	0.14	0.07	0.00	0.00	0.37 *	-0.20	-0.15	-0.19
D	126	C	4.22	0.07	0.18	0.10	0.61 ?	0.18	0.18 *	0.03	0.00	0.00	-0.04	0.05 ?	0.10 *	-0.19
D	127	D	-0.28	0.02	0.56	0.35	0.03	0.17	0.23	0.56 *	0.00	0.00	-0.25	-0.28	-0.03	0.35 *
D	128	C	-0.70	0.02	0.65	0.42	0.12	0.15	0.65 *	0.07	0.00	0.00	-0.23	-0.20	0.42 *	-0.18
D	129	D	-1.06	0.02	0.71	0.49	0.03	0.07	0.18	0.71 *	0.01	0.00	-0.29	-0.25	-0.25	0.49 *



**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	95	D	-2.05	0.03	0.86	0.48	0.06	0.03	0.06	0.86 *	0.00	0.00	-0.26	-0.27	-0.27	0.48 *
E	96	B	-1.21	0.02	0.74	0.36	0.14	0.74 *	0.07	0.05	0.00	0.00	-0.16	0.36 *	-0.23	-0.18
E	97	A	0.42	0.02	0.41	0.33	0.41 *	0.18	0.11	0.29	0.01	0.00	0.33 *	-0.09	-0.24	-0.11
E	98	D	-1.85	0.03	0.83	0.39	0.07	0.07	0.03	0.83 *	0.00	0.00	-0.28	-0.13	-0.26	0.39 *
E	99	B	-0.92	0.02	0.69	0.52	0.14	0.69 *	0.08	0.09	0.00	0.00	-0.28	0.52 *	-0.24	-0.27
E	100	A	-1.06	0.02	0.72	0.54	0.72 *	0.06	0.20	0.03	0.00	0.00	0.54 *	-0.26	-0.36	-0.23
E	101	D	-1.66	0.03	0.81	0.56	0.02	0.09	0.07	0.81 *	0.00	0.00	-0.25	-0.32	-0.33	0.56 *
E	102	A	-1.63	0.03	0.81	0.50	0.81 *	0.02	0.09	0.09	0.00	0.00	0.50 *	-0.22	-0.30	-0.28
E	103	C	4.08	0.06	0.17	0.17	0.19	0.60 ?	0.17 *	0.04	0.00	0.00	-0.24	0.11 ?	0.17 *	-0.09
E	104	C	-1.04	0.02	0.71	0.42	0.11	0.12	0.71 *	0.06	0.00	0.00	-0.30	-0.15	0.42 *	-0.18
E	105	D	-0.46	0.02	0.60	0.41	0.10	0.13	0.17	0.60 *	0.00	0.00	-0.23	-0.11	-0.25	0.41 *
E	106	B	-1.17	0.02	0.73	0.41	0.04	0.73 *	0.08	0.15	0.00	0.00	-0.27	0.41 *	-0.17	-0.24
E	107	B	-0.68	0.02	0.65	0.47	0.11	0.65 *	0.19	0.05	0.00	0.00	-0.30	0.47 *	-0.22	-0.20
E	108	B	-1.96	0.03	0.85	0.30	0.08	0.85 *	0.04	0.03	0.00	0.00	-0.11	0.30 *	-0.21	-0.21
E	109	B	-2.05	0.03	0.86	0.44	0.02	0.86 *	0.10	0.02	0.00	0.00	-0.25	0.44 *	-0.27	-0.24
E	110	B	-1.74	0.03	0.82	0.28	0.07	0.82 *	0.06	0.05	0.00	0.00	-0.15	0.28 *	-0.12	-0.18
E	111	D	0.11	0.02	0.48	0.47	0.08	0.14	0.30	0.48 *	0.00	0.00	-0.24	-0.28	-0.16	0.47 *
E	112	D	-1.48	0.02	0.78	0.47	0.07	0.04	0.11	0.78 *	0.00	0.00	-0.22	-0.31	-0.23	0.47 *
E	113	D	-2.15	0.03	0.87	0.51	0.03	0.06	0.04	0.87 *	0.00	0.00	-0.27	-0.29	-0.29	0.51 *
E	114	C	0.24	0.02	0.45	0.16	0.24	0.06	0.45 *	0.24	0.00	0.00	-0.12	-0.26	0.16 *	0.09 ?
E	115	C	-0.51	0.02	0.61	0.38	0.03	0.35	0.61 *	0.02	0.00	0.00	-0.25	-0.24	0.38 *	-0.22
E	116	C	-0.61	0.02	0.63	0.47	0.08	0.15	0.63 *	0.14	0.00	0.00	-0.28	-0.26	0.47 *	-0.16
E	117	C	0.32	0.02	0.44	0.30	0.29	0.12	0.44 *	0.15	0.00	0.00	-0.15	-0.25	0.30 *	0.01 ?
E	118	C	-0.69	0.02	0.65	0.29	0.03	0.16	0.65 *	0.17	0.00	0.00	-0.27	-0.18	0.29 *	-0.08
E	119	A	-1.56	0.02	0.79	0.54	0.79 *	0.12	0.06	0.03	0.00	0.00	0.54 *	-0.31	-0.32	-0.25
E	120	B	-1.78	0.03	0.83	0.45	0.05	0.83 *	0.08	0.04	0.00	0.00	-0.26	0.45 *	-0.28	-0.19
E	121	C	-0.45	0.02	0.60	0.37	0.30	0.04	0.60 *	0.06	0.00	0.00	-0.14	-0.26	0.37 *	-0.28
E	122	B	-0.76	0.02	0.66	0.44	0.07	0.66 *	0.22	0.06	0.00	0.00	-0.29	0.44 *	-0.16	-0.30
E	123	C	0.78	0.02	0.34	0.22	0.14	0.30	0.34 *	0.21	0.00	0.00	-0.16	-0.05	0.22 *	-0.05
E	124	A	-1.36	0.02	0.77	0.52	0.77 *	0.06	0.08	0.09	0.00	0.00	0.52 *	-0.29	-0.33	-0.21
E	125	A	-0.27	0.02	0.56	0.37	0.56 *	0.24	0.10	0.10	0.00	0.00	0.37 *	-0.18	-0.17	-0.18
E	126	C	-1.95	0.03	0.85	0.49	0.08	0.05	0.85 *	0.02	0.00	0.00	-0.28	-0.30	0.49 *	-0.23
E	127	B	-0.78	0.02	0.66	0.48	0.11	0.66 *	0.04	0.19	0.00	0.00	-0.17	0.48 *	-0.31	-0.28
E	128	C	-1.78	0.03	0.83	0.41	0.07	0.07	0.83 *	0.03	0.00	0.00	-0.22	-0.22	0.41 *	-0.23
E	129	B	-0.18	0.02	0.54	0.21	0.04	0.54 *	0.31	0.11	0.00	0.00	-0.25	0.21 *	0.12 ?	-0.32

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
F	95	C	-1.32	0.02	0.76	0.45	0.06	0.15	0.76 *	0.04	0.00	0.00	-0.29	-0.24	0.45 *	-0.18
F	96	B	-0.83	0.02	0.68	0.44	0.26	0.68 *	0.04	0.03	0.00	0.00	-0.30	0.44 *	-0.19	-0.22
F	97	B	1.05	0.02	0.29	0.19	0.22	0.29 *	0.33	0.15	0.01	0.00	0.07 ?	0.19 *	-0.11	-0.17
F	98	A	-1.81	0.03	0.83	0.42	0.83 *	0.05	0.03	0.09	0.00	0.00	0.42 *	-0.27	-0.25	-0.19
F	99	C	-1.83	0.03	0.83	0.44	0.03	0.06	0.83 *	0.08	0.00	0.00	-0.22	-0.26	0.44 *	-0.23
F	100	C	-1.80	0.03	0.83	0.51	0.07	0.09	0.83 *	0.02	0.00	0.00	-0.33	-0.29	0.51 *	-0.21
F	101	B	-1.31	0.02	0.76	0.53	0.15	0.76 *	0.03	0.05	0.00	0.00	-0.30	0.53 *	-0.29	-0.29
F	102	C	0.04	0.02	0.50	0.37	0.38	0.08	0.50 *	0.04	0.00	0.00	-0.14	-0.26	0.37 *	-0.21
F	103	C	-0.19	0.02	0.55	0.45	0.15	0.12	0.55 *	0.18	0.00	0.00	-0.27	-0.20	0.45 *	-0.15
F	104	B	0.13	0.02	0.48	0.23	0.30	0.48 *	0.08	0.14	0.00	0.00	0.17 ?	0.23 *	-0.18	-0.40
F	105	A	-0.98	0.02	0.70	0.40	0.70 *	0.06	0.06	0.18	0.00	0.00	0.40 *	-0.31	-0.27	-0.12
F	106	B	-1.02	0.02	0.71	0.41	0.09	0.71 *	0.09	0.11	0.00	0.00	-0.16	0.41 *	-0.29	-0.17
F	107	D	-0.60	0.02	0.63	0.34	0.10	0.12	0.15	0.63 *	0.00	0.00	0.04	-0.27	-0.24	0.34 *
F	108	C	-0.87	0.02	0.68	0.49	0.20	0.08	0.68 *	0.04	0.00	0.00	-0.23	-0.32	0.49 *	-0.25
F	109	D	-1.04	0.02	0.71	0.46	0.15	0.11	0.03	0.71 *	0.00	0.00	-0.29	-0.21	-0.24	0.46 *
F	110	C	0.23	0.02	0.46	0.32	0.39	0.07	0.46 *	0.08	0.00	0.00	-0.18	-0.18	0.32 *	-0.09
F	111	B	0.43	0.02	0.41	0.08	0.08	0.41 *	0.24	0.26	0.00	0.00	-0.11	0.08 *	0.03 ?	-0.05
F	112	B	-1.43	0.02	0.78	0.40	0.08	0.78 *	0.11	0.04	0.01	0.00	-0.28	0.40 *	-0.17	-0.16
F	113	B	-2.35	0.03	0.89	0.50	0.04	0.89 *	0.06	0.02	0.00	0.00	-0.26	0.50 *	-0.35	-0.19
F	114	C	-1.55	0.02	0.79	0.46	0.09	0.09	0.79 *	0.02	0.00	0.00	-0.31	-0.22	0.46 *	-0.22
F	115	C	0.51	0.02	0.40	0.24	0.16	0.22	0.40 *	0.22	0.00	0.00	-0.28	-0.07	0.24 *	0.04 ?
F	116	B	-1.59	0.03	0.80	0.52	0.10	0.80 *	0.05	0.05	0.00	0.00	-0.28	0.52 *	-0.28	-0.28
F	117	C	-1.37	0.02	0.77	0.39	0.11	0.04	0.77 *	0.08	0.00	0.00	-0.18	-0.27	0.39 *	-0.19
F	118	D	-1.47	0.02	0.78	0.54	0.06	0.10	0.06	0.78 *	0.00	0.00	-0.24	-0.36	-0.24	0.54 *
F	119	B	4.11	0.06	0.24	-0.12	0.03	0.24 *	0.69 ?	0.04	0.00	0.00	-0.29	-0.12 *	0.33 ?	-0.25
F	120	A	-1.47	0.02	0.78	0.46	0.78 *	0.09	0.09	0.03	0.00	0.00	0.46 *	-0.26	-0.24	-0.24
F	121	A	-2.07	0.03	0.86	0.53	0.86 *	0.07	0.05	0.03	0.00	0.00	0.53 *	-0.30	-0.30	-0.27
F	122	A	-2.00	0.03	0.85	0.45	0.85 *	0.04	0.09	0.01	0.00	0.00	0.45 *	-0.29	-0.26	-0.21
F	123	A	0.08	0.02	0.49	0.40	0.49 *	0.19	0.25	0.07	0.00	0.00	0.40 *	-0.13	-0.25	-0.14
F	124	C	-1.26	0.02	0.75	0.42	0.07	0.04	0.75 *	0.13	0.00	0.00	-0.28	-0.30	0.42 *	-0.13
F	125	D	0.95	0.02	0.31	0.22	0.30	0.20	0.19	0.31 *	0.01	0.00	0.08 ?	-0.19	-0.15	0.22 *
F	126	B	-1.60	0.03	0.80	0.43	0.08	0.80 *	0.08	0.04	0.00	0.00	-0.24	0.43 *	-0.22	-0.22
F	127	A	-0.56	0.02	0.62	0.26	0.62 *	0.22	0.14	0.02	0.00	0.00	0.26 *	-0.04	-0.21	-0.23
F	128	A	-1.32	0.02	0.76	0.48	0.76 *	0.07	0.06	0.11	0.00	0.00	0.48 *	-0.36	-0.24	-0.17
F	129	D	-1.17	0.02	0.73	0.52	0.05	0.06	0.15	0.73 *	0.00	0.00	-0.25	-0.28	-0.29	0.52 *

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	95	C	-0.59	0.02	0.63	0.44	0.14	0.12	0.63 *	0.10	0.01	0.00	-0.29	-0.22	0.44 *	-0.11
G	96	C	-2.69	0.03	0.91	0.45	0.04	0.02	0.91 *	0.03	0.00	0.00	-0.30	-0.24	0.45 *	-0.19
G	97	A	-0.08	0.02	0.52	0.28	0.52 *	0.14	0.13	0.22	0.00	0.00	0.28 *	-0.28	-0.24	0.09 ?
G	98	A	-2.13	0.03	0.86	0.48	0.86 *	0.07	0.04	0.03	0.00	0.00	0.48 *	-0.34	-0.21	-0.19
G	99	D	-1.41	0.02	0.77	0.42	0.07	0.05	0.11	0.77 *	0.00	0.00	-0.27	-0.25	-0.17	0.42 *
G	100	B	1.41	0.02	0.23	0.23	0.24	0.23 *	0.16	0.36	0.00	0.00	0.03 ?	0.23 *	-0.10	-0.14
G	101	A	-0.78	0.02	0.66	0.35	0.66 *	0.07	0.14	0.13	0.00	0.00	0.35 *	-0.09	-0.28	-0.13
G	102	B	-1.78	0.03	0.82	0.49	0.04	0.82 *	0.06	0.07	0.00	0.00	-0.26	0.49 *	-0.30	-0.22
G	103	A	-3.23	0.04	0.95	0.43	0.95 *	0.02	0.02	0.01	0.00	0.00	0.43 *	-0.24	-0.25	-0.23
G	104	A	1.07	0.02	0.29	0.23	0.29 *	0.14	0.29	0.28	0.00	0.00	0.23 *	-0.11	-0.04	-0.10
G	105	D	0.81	0.02	0.34	0.28	0.24	0.15	0.27	0.34 *	0.01	0.00	-0.02	-0.25	-0.07	0.28 *
G	106	B	-2.25	0.03	0.88	0.49	0.03	0.88 *	0.06	0.03	0.00	0.00	-0.24	0.49 *	-0.30	-0.26
G	107	B	-2.34	0.03	0.88	0.45	0.05	0.88 *	0.03	0.03	0.00	0.00	-0.20	0.45 *	-0.27	-0.28
G	108	D	-0.80	0.02	0.67	0.34	0.12	0.11	0.10	0.67 *	0.00	0.00	-0.34	-0.05	-0.10	0.34 *
G	109	B	-2.85	0.04	0.92	0.43	0.04	0.92 *	0.02	0.01	0.00	0.00	-0.22	0.43 *	-0.28	-0.22
G	110	D	-2.03	0.03	0.85	0.53	0.07	0.04	0.03	0.85 *	0.00	0.00	-0.25	-0.34	-0.29	0.53 *
G	111	C	-1.66	0.03	0.81	0.47	0.04	0.10	0.81 *	0.05	0.00	0.00	-0.25	-0.36	0.47 *	-0.12
G	112	B	0.29	0.02	0.44	0.43	0.07	0.44 *	0.38	0.11	0.00	0.00	-0.14	0.43 *	-0.30	-0.09
G	113	C	-1.02	0.02	0.71	0.49	0.02	0.21	0.71 *	0.06	0.00	0.00	-0.24	-0.26	0.49 *	-0.32
G	114	D	-0.99	0.02	0.70	0.56	0.04	0.12	0.13	0.70 *	0.00	0.00	-0.20	-0.33	-0.32	0.56 *
G	115	D	-0.59	0.02	0.63	0.56	0.09	0.11	0.17	0.63 *	0.00	0.00	-0.22	-0.23	-0.34	0.56 *
G	116	A	-1.27	0.02	0.75	0.58	0.75 *	0.12	0.07	0.07	0.00	0.00	0.58 *	-0.34	-0.28	-0.28
G	117	B	-2.71	0.03	0.92	0.47	0.02	0.92 *	0.03	0.03	0.00	0.00	-0.26	0.47 *	-0.28	-0.22
G	118	C	-1.08	0.02	0.72	0.47	0.11	0.07	0.72 *	0.10	0.01	0.00	-0.26	-0.29	0.47 *	-0.18
G	119	A	-1.59	0.03	0.80	0.49	0.80 *	0.08	0.10	0.03	0.00	0.00	0.49 *	-0.28	-0.24	-0.28
G	120	C	-2.55	0.03	0.90	0.50	0.05	0.03	0.90 *	0.02	0.00	0.00	-0.29	-0.28	0.50 *	-0.25
G	121	B	-1.45	0.02	0.78	0.55	0.08	0.78 *	0.04	0.10	0.00	0.00	-0.23	0.55 *	-0.30	-0.33
G	122	A	-1.36	0.02	0.76	0.51	0.76 *	0.06	0.14	0.04	0.00	0.00	0.51 *	-0.35	-0.28	-0.16
G	123	D	0.28	0.02	0.45	0.38	0.19	0.22	0.14	0.45 *	0.00	0.00	-0.19	-0.06	-0.25	0.38 *
G	124	B	-0.26	0.02	0.56	0.50	0.18	0.56 *	0.20	0.05	0.00	0.00	-0.22	0.50 *	-0.28	-0.19
G	125	B	-1.84	0.03	0.83	0.49	0.09	0.83 *	0.04	0.03	0.00	0.00	-0.27	0.49 *	-0.30	-0.21
G	126	B	-2.03	0.03	0.85	0.41	0.04	0.85 *	0.06	0.04	0.00	0.00	-0.24	0.41 *	-0.24	-0.17
G	127	B	-0.95	0.02	0.69	0.34	0.18	0.69 *	0.04	0.08	0.00	0.00	-0.14	0.34 *	-0.28	-0.15
G	128	B	-1.18	0.02	0.73	0.48	0.11	0.73 *	0.10	0.06	0.00	0.00	-0.33	0.48 *	-0.25	-0.14
G	129	D	-0.99	0.02	0.70	0.51	0.10	0.10	0.09	0.70 *	0.00	0.00	-0.29	-0.22	-0.26	0.51 *

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
H	95	A	-1.50	0.02	0.78	0.45	0.78 *	0.06	0.12	0.04	0.00	0.00	0.45 *	-0.28	-0.23	-0.24
H	96	B	-2.10	0.03	0.86	0.49	0.06	0.86 *	0.05	0.03	0.00	0.00	-0.30	0.49 *	-0.30	-0.19
H	97	C	-0.44	0.02	0.60	0.47	0.28	0.05	0.60 *	0.08	0.00	0.00	-0.25	-0.25	0.47 *	-0.24
H	98	B	-1.66	0.03	0.81	0.54	0.10	0.81 *	0.07	0.03	0.00	0.00	-0.34	0.54 *	-0.28	-0.23
H	99	B	-1.00	0.02	0.70	0.48	0.12	0.70 *	0.12	0.06	0.00	0.00	-0.27	0.48 *	-0.25	-0.21
H	100	A	-2.28	0.03	0.88	0.43	0.88 *	0.06	0.04	0.02	0.00	0.00	0.43 *	-0.24	-0.25	-0.24
H	101	B	-0.12	0.02	0.53	0.30	0.03	0.53 *	0.30	0.14	0.00	0.00	-0.26	0.30 *	-0.09	-0.16
H	102	B	-0.43	0.02	0.59	0.38	0.09	0.59 *	0.12	0.19	0.00	0.00	-0.19	0.38 *	-0.28	-0.08
H	103	B	-0.13	0.02	0.53	0.27	0.14	0.53 *	0.26	0.07	0.00	0.00	-0.06	0.27 *	-0.17	-0.13
H	104	A	-2.11	0.03	0.86	0.43	0.86 *	0.02	0.07	0.04	0.00	0.00	0.43 *	-0.23	-0.25	-0.24
H	105	C	0.01	0.02	0.50	0.28	0.21	0.11	0.50 *	0.17	0.00	0.00	-0.08	-0.24	0.28 *	-0.08
H	106	A	-1.63	0.03	0.80	0.48	0.80 *	0.07	0.04	0.09	0.00	0.00	0.48 *	-0.26	-0.28	-0.24
H	107	A	-0.60	0.02	0.63	0.42	0.63 *	0.07	0.18	0.12	0.00	0.00	0.42 *	-0.32	-0.19	-0.14
H	108	C	-0.43	0.02	0.59	0.32	0.15	0.15	0.59 *	0.10	0.00	0.00	-0.29	-0.09	0.32 *	-0.06
H	109	C	-2.42	0.03	0.89	0.43	0.07	0.02	0.89 *	0.02	0.00	0.00	-0.25	-0.27	0.43 *	-0.21
H	111	A	-0.44	0.02	0.60	0.47	0.60 *	0.04	0.31	0.05	0.00	0.00	0.47 *	-0.23	-0.32	-0.16
H	112	C	0.31	0.02	0.44	0.42	0.38	0.05	0.44 *	0.13	0.01	0.00	-0.22	-0.27	0.42 *	-0.10
H	113	B	-1.47	0.02	0.78	0.45	0.10	0.78 *	0.08	0.04	0.00	0.00	-0.26	0.45 *	-0.27	-0.18
H	114	A	1.04	0.02	0.29	0.19	0.29 *	0.14	0.23	0.34	0.00	0.00	0.19 *	-0.21	-0.28	0.23 ?
H	115	D	-1.18	0.02	0.73	0.52	0.13	0.08	0.05	0.73 *	0.00	0.00	-0.33	-0.21	-0.28	0.52 *
H	116	A	-1.29	0.02	0.75	0.48	0.75 *	0.08	0.04	0.13	0.00	0.00	0.48 *	-0.28	-0.27	-0.22
H	117	C	-0.97	0.02	0.70	0.54	0.13	0.13	0.70 *	0.04	0.00	0.00	-0.34	-0.24	0.54 *	-0.25
H	118	A	-1.85	0.03	0.83	0.50	0.83 *	0.06	0.04	0.06	0.00	0.00	0.50 *	-0.27	-0.28	-0.26
H	119	B	-0.72	0.02	0.65	0.45	0.23	0.65 *	0.09	0.02	0.00	0.00	-0.19	0.45 *	-0.30	-0.25
H	120	C	-1.43	0.02	0.78	0.48	0.09	0.08	0.78 *	0.06	0.00	0.00	-0.23	-0.27	0.48 *	-0.26
H	121	A	-1.02	0.02	0.71	0.48	0.71 *	0.09	0.12	0.08	0.00	0.00	0.48 *	-0.31	-0.23	-0.19
H	122	C	-1.58	0.02	0.80	0.47	0.08	0.06	0.80 *	0.07	0.00	0.00	-0.22	-0.34	0.47 *	-0.19
H	123	B	-0.04	0.02	0.51	0.26	0.23	0.51 *	0.16	0.09	0.00	0.00	-0.11	0.26 *	-0.12	-0.13
H	124	D	-0.37	0.02	0.58	0.47	0.09	0.21	0.11	0.58 *	0.00	0.00	-0.22	-0.22	-0.23	0.47 *
H	125	B	-0.51	0.02	0.61	0.36	0.23	0.61 *	0.07	0.09	0.00	0.00	-0.14	0.36 *	-0.15	-0.25
H	126	B	-0.34	0.02	0.58	0.25	0.06	0.58 *	0.29	0.08	0.00	0.00	-0.29	0.25 *	-0.07	-0.08
H	127	D	0.73	0.02	0.35	0.29	0.34	0.04	0.26	0.35 *	0.00	0.00	-0.10	-0.30	-0.07	0.29 *
H	128	C	-0.15	0.02	0.54	0.48	0.09	0.14	0.54 *	0.23	0.00	0.00	-0.23	-0.23	0.48 *	-0.21
H	129	D	-0.43	0.02	0.59	0.51	0.07	0.19	0.14	0.59 *	0.00	0.00	-0.24	-0.33	-0.17	0.51 *

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	95	D	-2.47	0.03	0.90	0.46	0.03	0.05	0.03	0.90 *	0.00	0.00	-0.25	-0.27	-0.25	0.46 *
I	96	C	0.19	0.02	0.46	0.16	0.23	0.06	0.46 *	0.25	0.00	0.00	-0.15	-0.24	0.16 *	0.09 ?
I	97	C	-0.52	0.02	0.61	0.37	0.02	0.36	0.61 *	0.01	0.00	0.00	-0.19	-0.27	0.37 *	-0.18
I	98	C	-0.63	0.02	0.64	0.45	0.08	0.13	0.64 *	0.15	0.00	0.00	-0.25	-0.24	0.45 *	-0.20
I	99	C	0.28	0.02	0.44	0.30	0.30	0.12	0.44 *	0.14	0.00	0.00	-0.15	-0.27	0.30 *	0.02 ?
I	100	C	-0.73	0.02	0.66	0.27	0.02	0.15	0.66 *	0.18	0.00	0.00	-0.23	-0.16	0.27 *	-0.10
I	101	A	-1.54	0.02	0.80	0.53	0.80 *	0.14	0.04	0.02	0.00	0.00	0.53 *	-0.34	-0.29	-0.26
I	102	B	-1.91	0.03	0.84	0.43	0.04	0.84 *	0.09	0.03	0.00	0.00	-0.24	0.43 *	-0.29	-0.16
I	103	C	-0.47	0.02	0.60	0.37	0.31	0.03	0.60 *	0.05	0.00	0.00	-0.16	-0.23	0.37 *	-0.29
I	104	B	-0.83	0.02	0.68	0.42	0.06	0.68 *	0.22	0.05	0.00	0.00	-0.26	0.42 *	-0.16	-0.31
I	105	C	0.15	0.02	0.47	0.28	0.13	0.22	0.47 *	0.17	0.00	0.00	-0.17	-0.09	0.28 *	-0.10
I	106	A	-1.52	0.02	0.79	0.50	0.79 *	0.05	0.07	0.09	0.00	0.00	0.50 *	-0.26	-0.31	-0.22
I	107	A	-0.17	0.02	0.54	0.35	0.54 *	0.28	0.08	0.09	0.00	0.00	0.35 *	-0.18	-0.13	-0.18
I	108	C	-2.10	0.03	0.86	0.47	0.07	0.05	0.86 *	0.02	0.00	0.00	-0.27	-0.29	0.47 *	-0.23
I	109	B	-0.75	0.02	0.66	0.44	0.12	0.66 *	0.03	0.19	0.00	0.00	-0.18	0.44 *	-0.27	-0.27
I	110	C	-1.98	0.03	0.85	0.38	0.06	0.07	0.85 *	0.02	0.00	0.00	-0.21	-0.20	0.38 *	-0.21
I	111	B	-0.27	0.02	0.56	0.19	0.04	0.56 *	0.28	0.13	0.00	0.00	-0.17	0.19 *	0.09 ?	-0.30
I	112	B	0.45	0.02	0.41	0.20	0.27	0.41 *	0.11	0.21	0.01	0.00	-0.12	0.20 *	-0.15	0.03
I	113	A	-1.57	0.02	0.80	0.51	0.80 *	0.07	0.08	0.05	0.00	0.00	0.51 *	-0.28	-0.32	-0.19
I	114	D	-1.41	0.02	0.78	0.62	0.14	0.04	0.04	0.78 *	0.00	0.00	-0.40	-0.34	-0.25	0.62 *
I	115	C	1.19	0.02	0.26	0.05	0.35	0.19	0.26 *	0.19	0.00	0.00	-0.01	-0.01	0.05 *	-0.03
I	116	A	-1.90	0.03	0.84	0.55	0.84 *	0.05	0.07	0.05	0.00	0.00	0.55 *	-0.29	-0.34	-0.25
I	117	C	-1.54	0.02	0.79	0.34	0.06	0.10	0.79 *	0.04	0.00	0.00	-0.28	-0.10	0.34 *	-0.19
I	118	B	-0.20	0.02	0.55	0.36	0.09	0.55 *	0.10	0.26	0.00	0.00	-0.28	0.36 *	-0.22	-0.07
I	119	D	-1.27	0.02	0.75	0.50	0.10	0.10	0.04	0.75 *	0.00	0.00	-0.18	-0.31	-0.33	0.50 *
I	120	A	0.81	0.02	0.34	0.28	0.34 *	0.32	0.08	0.26	0.00	0.00	0.28 *	0.00	-0.27	-0.12
I	121	B	-1.38	0.02	0.77	0.50	0.10	0.77 *	0.07	0.05	0.00	0.00	-0.28	0.50 *	-0.29	-0.21
I	122	D	-0.96	0.02	0.70	0.56	0.07	0.17	0.06	0.70 *	0.00	0.00	-0.29	-0.33	-0.25	0.56 *
I	123	A	0.58	0.02	0.38	0.23	0.38 *	0.13	0.41	0.08	0.00	0.00	0.23 *	-0.13	-0.05	-0.15
I	124	B	-1.78	0.03	0.83	0.48	0.09	0.83 *	0.06	0.03	0.00	0.00	-0.22	0.48 *	-0.32	-0.26
I	125	A	-0.20	0.02	0.55	0.35	0.55 *	0.29	0.11	0.06	0.00	0.00	0.35 *	-0.15	-0.18	-0.20
I	126	B	-0.83	0.02	0.68	0.37	0.15	0.68 *	0.08	0.09	0.00	0.00	-0.05	0.37 *	-0.28	-0.26
I	127	D	-1.99	0.03	0.85	0.54	0.04	0.04	0.07	0.85 *	0.00	0.00	-0.28	-0.30	-0.30	0.54 *
I	129	D	-0.58	0.02	0.63	0.20	0.26	0.04	0.07	0.63 *	0.01	0.00	0.04 ?	-0.28	-0.21	0.20 *

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
J	95	B	-2.57	0.03	0.91	0.44	0.03	0.91 *	0.05	0.01	0.00	0.00	-0.21	0.44 *	-0.31	-0.19
J	96	C	-1.61	0.03	0.81	0.43	0.09	0.09	0.81 *	0.01	0.00	0.00	-0.34	-0.19	0.43 *	-0.17
J	97	C	0.79	0.02	0.34	0.20	0.16	0.22	0.34 *	0.28	0.00	0.00	-0.26	-0.03	0.20 *	0.03 ?
J	98	B	-1.70	0.03	0.82	0.50	0.10	0.82 *	0.04	0.04	0.00	0.00	-0.29	0.50 *	-0.26	-0.27
J	99	C	-1.47	0.02	0.78	0.36	0.09	0.04	0.78 *	0.09	0.00	0.00	-0.14	-0.26	0.36 *	-0.19
J	100	D	-1.50	0.02	0.79	0.51	0.07	0.09	0.05	0.79 *	0.00	0.00	-0.22	-0.35	-0.23	0.51 *
J	101	B	4.15	0.07	0.21	-0.15	0.02	0.21 *	0.74 ?	0.04	0.00	0.00	-0.23	-0.15 *	0.32 ?	-0.25
J	102	A	-1.51	0.02	0.79	0.41	0.79 *	0.08	0.10	0.03	0.00	0.00	0.41 *	-0.21	-0.25	-0.21
J	103	A	-2.28	0.03	0.88	0.47	0.88 *	0.06	0.04	0.02	0.00	0.00	0.47 *	-0.28	-0.26	-0.24
J	104	A	-2.12	0.03	0.87	0.44	0.87 *	0.04	0.09	0.01	0.00	0.00	0.44 *	-0.25	-0.30	-0.17
J	105	A	0.00	0.02	0.50	0.40	0.50 *	0.18	0.25	0.07	0.00	0.00	0.40 *	-0.11	-0.28	-0.13
J	106	C	-1.35	0.02	0.76	0.41	0.06	0.04	0.76 *	0.14	0.00	0.00	-0.27	-0.26	0.41 *	-0.16
J	107	D	0.86	0.02	0.33	0.27	0.25	0.19	0.23	0.33 *	0.01	0.00	0.06 ?	-0.22	-0.15	0.27 *
J	108	B	-1.81	0.03	0.83	0.37	0.06	0.83 *	0.07	0.03	0.00	0.00	-0.20	0.37 *	-0.22	-0.17
J	109	A	-0.63	0.02	0.64	0.20	0.64 *	0.23	0.12	0.01	0.00	0.00	0.20 *	0.00 ?	-0.23	-0.18
J	110	A	-1.43	0.02	0.78	0.46	0.78 *	0.07	0.05	0.11	0.00	0.00	0.46 *	-0.36	-0.18	-0.19
J	111	D	-1.26	0.02	0.75	0.52	0.04	0.06	0.15	0.75 *	0.00	0.00	-0.21	-0.29	-0.32	0.52 *
J	112	D	0.80	0.02	0.34	0.21	0.14	0.16	0.36	0.34 *	0.01	0.00	-0.06	-0.08	-0.08	0.21 *
J	113	B	-0.78	0.02	0.67	0.50	0.08	0.67 *	0.10	0.16	0.00	0.00	-0.19	0.50 *	-0.23	-0.31
J	114	C	-0.59	0.02	0.63	0.45	0.08	0.12	0.63 *	0.17	0.00	0.00	-0.24	-0.22	0.45 *	-0.20
J	115	D	-1.76	0.03	0.82	0.49	0.07	0.04	0.07	0.82 *	0.00	0.00	-0.18	-0.24	-0.35	0.49 *
J	116	D	-0.09	0.02	0.52	0.38	0.27	0.05	0.16	0.52 *	0.00	0.00	-0.16	-0.30	-0.14	0.38 *
J	117	D	0.32	0.02	0.44	0.44	0.17	0.13	0.26	0.44 *	0.00	0.00	-0.18	-0.14	-0.22	0.44 *
J	118	C	-0.14	0.02	0.54	0.44	0.05	0.20	0.54 *	0.22	0.00	0.00	-0.24	-0.25	0.44 *	-0.16
J	119	B	-0.46	0.02	0.60	0.17	0.04	0.60 *	0.27	0.09	0.00	0.00	-0.23	0.17 *	0.04 ?	-0.18
J	120	C	-1.58	0.02	0.80	0.58	0.08	0.06	0.80 *	0.06	0.00	0.00	-0.34	-0.30	0.58 *	-0.28
J	121	A	0.16	0.02	0.47	0.21	0.47 *	0.06	0.35	0.13	0.00	0.00	0.21 *	-0.33	-0.01	-0.06
J	122	C	-0.37	0.02	0.58	0.30	0.19	0.08	0.58 *	0.14	0.00	0.00	-0.10	-0.35	0.30 *	-0.02
J	123	D	0.09	0.02	0.49	0.42	0.07	0.11	0.33	0.49 *	0.00	0.00	-0.27	-0.23	-0.14	0.42 *
J	124	B	-0.64	0.02	0.64	0.44	0.08	0.64 *	0.06	0.21	0.00	0.00	-0.31	0.44 *	-0.21	-0.16
J	125	B	-0.72	0.02	0.65	0.35	0.07	0.65 *	0.25	0.02	0.00	0.00	-0.30	0.35 *	-0.11	-0.23
J	126	B	-0.81	0.02	0.67	0.42	0.12	0.67 *	0.16	0.05	0.01	0.00	-0.19	0.42 *	-0.24	-0.19
J	127	D	0.82	0.02	0.34	0.31	0.17	0.37	0.13	0.34 *	0.00	0.00	-0.07	-0.06	-0.27	0.31 *
J	128	C	-0.54	0.02	0.62	0.23	0.30	0.05	0.62 *	0.03	0.00	0.00	-0.02	-0.30	0.23 *	-0.19
J	129	D	-1.47	0.02	0.79	0.41	0.03	0.14	0.04	0.79 *	0.00	0.00	-0.32	-0.15	-0.28	0.41 *

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	95	A	-1.19	0.02	0.74	0.23	0.74 *	0.03	0.04	0.20	0.00	0.00	0.23 *	-0.23	-0.19	-0.06
K	96	A	-2.05	0.03	0.86	0.46	0.86 *	0.05	0.06	0.03	0.00	0.00	0.46 *	-0.22	-0.36	-0.15
K	97	A	-0.97	0.02	0.70	0.38	0.70 *	0.13	0.14	0.03	0.00	0.00	0.38 *	-0.29	-0.12	-0.19
K	98	C	-1.07	0.02	0.72	0.38	0.05	0.09	0.72 *	0.14	0.00	0.00	-0.29	-0.29	0.38 *	-0.07
K	99	B	-1.60	0.02	0.80	0.51	0.07	0.80 *	0.03	0.10	0.00	0.00	-0.25	0.51 *	-0.26	-0.31
K	100	D	-1.90	0.03	0.84	0.46	0.06	0.04	0.06	0.84 *	0.00	0.00	-0.33	-0.15	-0.24	0.46 *
K	101	B	-0.17	0.02	0.54	0.29	0.12	0.54 *	0.08	0.26	0.00	0.00	-0.15	0.29 *	-0.26	-0.05
K	102	A	-1.23	0.02	0.75	0.43	0.75 *	0.07	0.07	0.12	0.00	0.00	0.43 *	-0.27	-0.18	-0.22
K	103	C	-2.31	0.03	0.88	0.53	0.02	0.05	0.88 *	0.05	0.00	0.00	-0.28	-0.30	0.53 *	-0.30
K	104	C	-2.08	0.03	0.86	0.44	0.06	0.04	0.86 *	0.04	0.00	0.00	-0.24	-0.26	0.44 *	-0.22
K	105	A	0.06	0.02	0.49	0.39	0.49 *	0.11	0.12	0.28	0.00	0.00	0.39 *	-0.30	-0.19	-0.08
K	106	C	0.52	0.02	0.40	0.23	0.13	0.31	0.40 *	0.15	0.00	0.00	-0.24	-0.07	0.23 *	0.02 ?
K	107	B	4.08	0.06	0.35	0.10	0.30	0.35 *	0.26	0.09	0.00	0.00	0.11 ?	0.10 *	-0.05	-0.27
K	108	D	-0.04	0.02	0.51	0.43	0.11	0.28	0.10	0.51 *	0.00	0.00	-0.23	-0.18	-0.20	0.43 *
K	109	D	-1.20	0.02	0.74	0.43	0.06	0.17	0.03	0.74 *	0.00	0.00	-0.33	-0.18	-0.24	0.43 *
K	110	D	-3.08	0.04	0.94	0.41	0.02	0.02	0.02	0.94 *	0.00	0.00	-0.23	-0.24	-0.22	0.41 *
K	111	C	0.27	0.02	0.45	0.24	0.28	0.15	0.45 *	0.12	0.00	0.00	-0.25	-0.03	0.24 *	0.02 ?
K	112	D	0.95	0.02	0.31	0.34	0.48	0.12	0.09	0.31 *	0.01	0.00	-0.13	-0.12	-0.16	0.34 *
K	113	C	-0.57	0.02	0.62	0.43	0.16	0.12	0.62 *	0.10	0.01	0.00	-0.29	-0.22	0.43 *	-0.09
K	114	C	-2.49	0.03	0.90	0.47	0.04	0.03	0.90 *	0.03	0.00	0.00	-0.30	-0.26	0.47 *	-0.20
K	115	A	-0.18	0.02	0.54	0.31	0.54 *	0.14	0.13	0.19	0.00	0.00	0.31 *	-0.25	-0.23	0.04 ?
K	116	A	-1.96	0.03	0.85	0.52	0.85 *	0.07	0.05	0.03	0.00	0.00	0.52 *	-0.34	-0.26	-0.22
K	117	D	-1.26	0.02	0.75	0.45	0.08	0.05	0.11	0.75 *	0.00	0.00	-0.26	-0.25	-0.20	0.45 *
K	118	B	1.31	0.02	0.25	0.23	0.26	0.25 *	0.16	0.34	0.00	0.00	0.03 ?	0.23 *	-0.13	-0.12
K	119	A	-0.76	0.02	0.66	0.36	0.66 *	0.09	0.13	0.13	0.00	0.00	0.36 *	-0.10	-0.29	-0.13
K	120	B	-1.57	0.02	0.80	0.50	0.05	0.80 *	0.08	0.08	0.00	0.00	-0.28	0.50 *	-0.31	-0.21
K	121	A	-2.92	0.04	0.93	0.48	0.93 *	0.02	0.03	0.02	0.00	0.00	0.48 *	-0.26	-0.28	-0.24
K	122	A	0.71	0.02	0.35	0.25	0.35 *	0.13	0.25	0.27	0.00	0.00	0.25 *	-0.15	-0.03	-0.11
K	123	D	0.83	0.02	0.33	0.28	0.24	0.15	0.27	0.33 *	0.01	0.00	-0.05	-0.23	-0.05	0.28 *
K	124	B	-2.04	0.03	0.86	0.50	0.04	0.86 *	0.07	0.03	0.00	0.00	-0.27	0.50 *	-0.28	-0.27
K	125	B	-2.19	0.03	0.87	0.49	0.05	0.87 *	0.04	0.03	0.00	0.00	-0.22	0.49 *	-0.31	-0.27
K	126	D	-0.59	0.02	0.63	0.35	0.12	0.13	0.12	0.63 *	0.00	0.00	-0.33	-0.07	-0.11	0.35 *
K	127	B	-2.59	0.03	0.91	0.47	0.04	0.91 *	0.03	0.02	0.00	0.00	-0.24	0.47 *	-0.31	-0.23
K	128	D	-1.84	0.03	0.83	0.55	0.08	0.05	0.04	0.83 *	0.00	0.00	-0.28	-0.33	-0.29	0.55 *
K	129	C	-1.53	0.02	0.79	0.46	0.04	0.10	0.79 *	0.07	0.01	0.00	-0.25	-0.32	0.46 *	-0.15

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
L	95	D	0.78	0.02	0.34	0.40	0.27	0.08	0.31	0.34 *	0.00	0.00	-0.12	-0.13	-0.21	0.40 *
L	96	B	-0.35	0.02	0.58	0.42	0.10	0.58 *	0.09	0.24	0.00	0.00	-0.25	0.42 *	-0.26	-0.14
L	97	D	4.16	0.06	0.44	0.34	0.45	0.07	0.04	0.44 *	0.00	0.00	-0.09	-0.29	-0.24	0.34 *
L	98	A	-0.55	0.02	0.62	0.43	0.62 *	0.17	0.11	0.10	0.00	0.00	0.43 *	-0.30	-0.13	-0.17
L	99	A	-1.41	0.02	0.77	0.47	0.77 *	0.10	0.06	0.07	0.00	0.00	0.47 *	-0.24	-0.29	-0.21
L	100	A	-0.74	0.02	0.65	0.37	0.65 *	0.15	0.05	0.14	0.00	0.00	0.37 *	-0.20	-0.28	-0.11
L	101	A	0.34	0.02	0.43	0.35	0.43 *	0.16	0.20	0.21	0.00	0.00	0.35 *	-0.05	-0.22	-0.16
L	102	A	-0.86	0.02	0.68	0.51	0.68 *	0.05	0.15	0.12	0.00	0.00	0.51 *	-0.31	-0.26	-0.23
L	103	B	-0.58	0.02	0.62	0.40	0.08	0.62 *	0.12	0.18	0.01	0.00	-0.23	0.40 *	-0.21	-0.16
L	104	B	-1.65	0.03	0.81	0.48	0.12	0.81 *	0.05	0.02	0.00	0.00	-0.34	0.48 *	-0.19	-0.23
L	105	A	0.67	0.02	0.37	0.28	0.37 *	0.24	0.26	0.13	0.00	0.00	0.28 *	-0.06	-0.18	-0.07
L	106	D	-1.34	0.02	0.76	0.49	0.05	0.06	0.12	0.76 *	0.00	0.00	-0.28	-0.26	-0.24	0.49 *
L	107	A	-0.73	0.02	0.65	0.33	0.65 *	0.15	0.14	0.06	0.00	0.00	0.33 *	-0.19	-0.14	-0.16
L	108	C	4.16	0.06	0.18	0.14	0.62 ?	0.18	0.18 *	0.02	0.00	0.00	-0.11	0.09 ?	0.14 *	-0.20
L	109	D	-0.37	0.02	0.58	0.29	0.03	0.14	0.25	0.58 *	0.00	0.00	-0.22	-0.26	-0.03	0.29 *
L	110	C	-0.80	0.02	0.67	0.43	0.11	0.15	0.67 *	0.07	0.00	0.00	-0.25	-0.23	0.43 *	-0.15
L	111	D	-1.26	0.02	0.75	0.48	0.02	0.06	0.17	0.75 *	0.00	0.00	-0.25	-0.26	-0.28	0.48 *
L	112	C	-0.24	0.02	0.56	0.41	0.18	0.11	0.56 *	0.15	0.01	0.00	-0.29	-0.19	0.41 *	-0.07
L	113	A	-1.51	0.02	0.79	0.48	0.79 *	0.06	0.10	0.05	0.00	0.00	0.48 *	-0.30	-0.20	-0.28
L	114	B	-1.90	0.03	0.84	0.53	0.07	0.84 *	0.05	0.04	0.00	0.00	-0.30	0.53 *	-0.34	-0.20
L	115	C	-0.37	0.02	0.58	0.46	0.27	0.06	0.58 *	0.09	0.00	0.00	-0.20	-0.29	0.46 *	-0.23
L	116	B	-1.45	0.02	0.78	0.55	0.11	0.78 *	0.07	0.03	0.00	0.00	-0.34	0.55 *	-0.28	-0.23
L	117	B	-0.95	0.02	0.70	0.51	0.13	0.70 *	0.12	0.06	0.00	0.00	-0.28	0.51 *	-0.26	-0.22
L	118	A	-2.00	0.03	0.85	0.48	0.85 *	0.08	0.04	0.03	0.00	0.00	0.48 *	-0.25	-0.29	-0.25
L	119	B	-0.20	0.02	0.55	0.33	0.04	0.55 *	0.27	0.14	0.00	0.00	-0.28	0.33 *	-0.09	-0.17
L	120	B	-0.11	0.02	0.53	0.37	0.09	0.53 *	0.17	0.21	0.00	0.00	-0.23	0.37 *	-0.25	-0.04
L	121	B	-0.06	0.02	0.52	0.28	0.16	0.52 *	0.23	0.08	0.00	0.00	-0.08	0.28 *	-0.15	-0.15
L	122	A	-1.95	0.03	0.85	0.47	0.85 *	0.03	0.08	0.04	0.00	0.00	0.47 *	-0.27	-0.27	-0.23
L	123	C	0.15	0.02	0.47	0.26	0.24	0.10	0.47 *	0.18	0.01	0.00	-0.07	-0.22	0.26 *	-0.07
L	124	A	-1.61	0.03	0.80	0.52	0.80 *	0.07	0.05	0.08	0.00	0.00	0.52 *	-0.31	-0.27	-0.25
L	125	A	-0.56	0.02	0.62	0.44	0.62 *	0.08	0.18	0.11	0.00	0.00	0.44 *	-0.33	-0.19	-0.14
L	126	C	-0.32	0.02	0.57	0.34	0.15	0.15	0.57 *	0.12	0.00	0.00	-0.29	-0.10	0.34 *	-0.06
L	127	C	-2.23	0.03	0.88	0.47	0.07	0.03	0.88 *	0.02	0.00	0.00	-0.27	-0.27	0.47 *	-0.22
L	129	A	-0.23	0.02	0.55	0.45	0.55 *	0.04	0.35	0.05	0.00	0.00	0.45 *	-0.23	-0.28	-0.17



**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	26	A	-0.67	0.02	0.64	0.29	0.64 *	0.05	0.09	0.22	0.00	0.00	0.29 *	-0.26	-0.21	-0.05
W	27	D	-0.76	0.02	0.66	0.45	0.15	0.11	0.08	0.66 *	0.00	0.00	-0.27	-0.23	-0.17	0.45 *
W	28	D	0.16	0.02	0.47	0.26	0.28	0.06	0.19	0.47 *	0.00	0.00	0.12 ?	-0.17	-0.37	0.26 *
W	29	C	-2.14	0.03	0.87	0.49	0.01	0.08	0.87 *	0.04	0.00	0.00	-0.18	-0.40	0.49 *	-0.19
W	30	A	-1.81	0.03	0.83	0.37	0.83 *	0.07	0.01	0.09	0.00	0.00	0.37 *	-0.15	-0.17	-0.28
W	31	C	-1.33	0.02	0.76	0.30	0.06	0.10	0.76 *	0.09	0.00	0.00	-0.23	-0.10	0.30 *	-0.16
W	32	B	-2.36	0.03	0.89	0.34	0.02	0.89 *	0.03	0.06	0.00	0.00	-0.22	0.34 *	-0.20	-0.17
W	33	A	0.10	0.02	0.49	0.30	0.49 *	0.07	0.09	0.36	0.00	0.00	0.30 *	-0.25	-0.25	-0.04
W	34	D	-0.85	0.02	0.68	0.53	0.17	0.07	0.08	0.68 *	0.00	0.00	-0.31	-0.33	-0.17	0.53 *
W	35	C	-1.29	0.02	0.75	0.43	0.12	0.05	0.75 *	0.08	0.00	0.00	-0.30	-0.22	0.43 *	-0.14
W	36	B	-1.00	0.02	0.71	0.34	0.22	0.71 *	0.02	0.06	0.00	0.00	-0.22	0.34 *	-0.22	-0.16
W	37	B	0.15	0.02	0.47	0.41	0.22	0.47 *	0.13	0.18	0.00	0.00	-0.10	0.41 *	-0.07	-0.36
W	38	C	0.55	0.02	0.39	0.26	0.39	0.08	0.39 *	0.14	0.00	0.00	-0.11	-0.18	0.26 *	-0.07
W	39	C	-1.91	0.03	0.84	0.49	0.07	0.03	0.84 *	0.06	0.00	0.00	-0.31	-0.22	0.49 *	-0.26
W	40	D	0.29	0.02	0.44	0.19	0.19	0.34	0.03	0.44 *	0.00	0.00	-0.22	0.08 ?	-0.26	0.19 *
W	41	A	0.22	0.02	0.46	0.05	0.46 *	0.21	0.08	0.25	0.00	0.00	0.05 *	0.09 ?	-0.18	-0.03
W	42	B	-1.26	0.02	0.75	0.26	0.17	0.75 *	0.05	0.04	0.00	0.00	-0.13	0.26 *	-0.21	-0.09
W	43	C	-1.17	0.02	0.73	0.47	0.09	0.06	0.73 *	0.12	0.00	0.00	-0.29	-0.23	0.47 *	-0.21
W	44	B	-0.24	0.02	0.56	0.37	0.05	0.56 *	0.05	0.35	0.00	0.00	-0.29	0.37 *	-0.28	-0.13
W	45	A	-1.42	0.02	0.77	0.38	0.77 *	0.10	0.09	0.04	0.00	0.00	0.38 *	-0.14	-0.24	-0.24
W	46	C	-0.79	0.02	0.67	0.43	0.15	0.13	0.67 *	0.06	0.00	0.00	-0.16	-0.24	0.43 *	-0.28
W	47	C	-0.40	0.02	0.59	0.32	0.27	0.04	0.59 *	0.10	0.00	0.00	-0.23	-0.23	0.32 *	-0.04
W	48	A	-1.17	0.02	0.74	0.50	0.74 *	0.15	0.07	0.04	0.00	0.00	0.50 *	-0.26	-0.31	-0.23
W	49	C	-0.35	0.02	0.58	0.42	0.05	0.26	0.58 *	0.11	0.00	0.00	-0.26	-0.23	0.42 *	-0.14
W	50	B	-0.19	0.02	0.54	0.30	0.15	0.54 *	0.16	0.14	0.00	0.00	-0.14	0.30 *	-0.18	-0.10
W	51	A	-2.06	0.03	0.86	0.53	0.86 *	0.04	0.07	0.03	0.00	0.00	0.53 *	-0.30	-0.35	-0.21
W	52	D	0.37	0.02	0.43	0.28	0.10	0.34	0.14	0.43 *	0.00	0.00	-0.06	-0.10	-0.21	0.28 *
W	53	C	-0.52	0.02	0.61	0.43	0.09	0.13	0.61 *	0.17	0.00	0.00	-0.24	-0.25	0.43 *	-0.15
W	54	D	0.60	0.02	0.38	0.20	0.24	0.33	0.05	0.38 *	0.00	0.00	-0.21	0.09 ?	-0.23	0.20 *
W	55	A	-0.10	0.02	0.53	0.25	0.53 *	0.08	0.21	0.19	0.00	0.00	0.25 *	-0.27	-0.15	0.02 ?
W	56	D	-1.07	0.02	0.72	0.42	0.08	0.10	0.11	0.72 *	0.00	0.00	-0.18	-0.21	-0.24	0.42 *
W	57	A	0.97	0.02	0.31	0.09	0.31 *	0.40	0.10	0.19	0.00	0.00	0.09 *	0.10 ?	-0.21	-0.06
W	58	D	0.34	0.02	0.43	0.11	0.26	0.14	0.18	0.43 *	0.00	0.00	-0.15	-0.15	0.16 ?	0.11 *
W	59	D	-0.61	0.02	0.63	0.54	0.23	0.07	0.07	0.63 *	0.00	0.00	-0.27	-0.31	-0.26	0.54 *
W	60	B	-0.16	0.02	0.54	0.28	0.25	0.54 *	0.15	0.06	0.00	0.00	0.04 ?	0.28 *	-0.27	-0.24
W	61	B	-1.04	0.02	0.71	0.37	0.10	0.71 *	0.06	0.13	0.00	0.00	-0.27	0.37 *	-0.23	-0.10
W	179	A	-1.22	0.02	0.74	0.27	0.74 *	0.11	0.13	0.02	0.00	0.00	0.27 *	-0.22	-0.09	-0.14
W	180	B	-1.04	0.02	0.71	0.33	0.08	0.71 *	0.04	0.17	0.00	0.00	-0.28	0.33 *	-0.26	-0.05

**Appendix I: 2002 PSSA Grade Eight Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
W	181	D	-2.55	0.03	0.91	0.50	0.02	0.04	0.04	0.91 *	0.00	0.00	-0.24	-0.29	-0.31	0.50 *
W	182	D	-1.40	0.02	0.77	0.39	0.07	0.06	0.11	0.77 *	0.00	0.00	-0.19	-0.25	-0.19	0.39 *
W	183	B	-1.66	0.03	0.81	0.43	0.04	0.81 *	0.11	0.04	0.00	0.00	-0.27	0.43 *	-0.24	-0.22
W	184	C	-1.32	0.02	0.76	0.33	0.15	0.06	0.76 *	0.04	0.00	0.00	-0.08	-0.31	0.33 *	-0.21
W	185	C	-1.31	0.02	0.76	0.45	0.19	0.04	0.76 *	0.01	0.00	0.00	-0.32	-0.24	0.45 *	-0.20
W	186	B	-0.77	0.02	0.66	0.36	0.13	0.66 *	0.02	0.20	0.00	0.00	-0.26	0.36 *	-0.24	-0.13
W	187	B	0.13	0.02	0.48	0.32	0.30	0.48 *	0.14	0.09	0.00	0.00	-0.18	0.32 *	-0.10	-0.15
W	188	B	0.07	0.02	0.49	0.36	0.15	0.49 *	0.28	0.08	0.00	0.00	-0.15	0.36 *	-0.19	-0.16
W	189	A	0.38	0.02	0.42	0.23	0.42 *	0.23	0.09	0.25	0.00	0.00	0.23 *	-0.13	-0.21	0.01 ?
W	190	B	-0.37	0.02	0.58	0.37	0.27	0.58 *	0.06	0.09	0.00	0.00	-0.13	0.37 *	-0.29	-0.20
W	191	C	-3.33	0.04	0.95	0.40	0.02	0.02	0.95 *	0.01	0.00	0.00	-0.25	-0.24	0.40 *	-0.19
W	192	C	-0.88	0.02	0.68	0.47	0.14	0.10	0.68 *	0.09	0.00	0.00	-0.22	-0.26	0.47 *	-0.24
W	193	A	-1.34	0.02	0.76	0.38	0.76 *	0.03	0.14	0.07	0.00	0.00	0.38 *	-0.28	-0.19	-0.18
W	194	A	-1.61	0.03	0.80	0.39	0.80 *	0.11	0.05	0.04	0.00	0.00	0.39 *	-0.17	-0.23	-0.26
W	195	D	-1.47	0.02	0.78	0.37	0.06	0.05	0.11	0.78 *	0.00	0.00	-0.25	-0.23	-0.14	0.37 *
W	196	A	-2.06	0.03	0.86	0.28	0.86 *	0.05	0.02	0.07	0.00	0.00	0.28 *	-0.15	-0.22	-0.11
W	197	D	-0.83	0.02	0.67	0.37	0.04	0.25	0.03	0.67 *	0.00	0.00	-0.28	-0.15	-0.28	0.37 *
W	198	D	-0.17	0.02	0.54	0.41	0.14	0.23	0.09	0.54 *	0.00	0.00	-0.20	-0.15	-0.26	0.41 *
W	199	B	-1.57	0.02	0.80	0.58	0.05	0.80 *	0.08	0.07	0.00	0.00	-0.31	0.58 *	-0.32	-0.30
W	200	B	-1.64	0.03	0.81	0.55	0.05	0.81 *	0.08	0.06	0.00	0.00	-0.31	0.55 *	-0.28	-0.30
W	201	A	-0.61	0.02	0.63	0.47	0.63 *	0.22	0.09	0.06	0.00	0.00	0.47 *	-0.25	-0.28	-0.18
W	202	C	-0.52	0.02	0.61	0.38	0.05	0.07	0.61 *	0.26	0.00	0.00	-0.27	-0.28	0.38 *	-0.12
W	203	C	-1.04	0.02	0.71	0.57	0.07	0.07	0.71 *	0.14	0.00	0.00	-0.31	-0.29	0.57 *	-0.29
W	204	B	-0.68	0.02	0.65	0.41	0.10	0.65 *	0.18	0.08	0.00	0.00	-0.12	0.41 *	-0.20	-0.32
W	205	B	-2.89	0.04	0.93	0.45	0.02	0.93 *	0.03	0.02	0.00	0.00	-0.27	0.45 *	-0.27	-0.21
W	206	C	0.07	0.02	0.49	0.31	0.10	0.29	0.49 *	0.12	0.00	0.00	-0.22	-0.09	0.31 *	-0.13
W	207	A	-0.70	0.02	0.65	0.43	0.65 *	0.18	0.12	0.05	0.00	0.00	0.43 *	-0.23	-0.13	-0.32
W	208	A	-0.88	0.02	0.68	0.36	0.68 *	0.22	0.04	0.06	0.00	0.00	0.36 *	-0.16	-0.26	-0.19
W	209	C	0.87	0.02	0.33	0.29	0.28	0.27	0.33 *	0.12	0.00	0.00	-0.09	-0.12	0.29 *	-0.11
W	210	C	-0.76	0.02	0.66	0.42	0.06	0.24	0.66 *	0.05	0.00	0.00	-0.29	-0.16	0.42 *	-0.29
W	211	A	-2.16	0.03	0.87	0.47	0.87 *	0.05	0.04	0.03	0.01	0.00	0.47 *	-0.31	-0.28	-0.18
W	212	B	-0.44	0.02	0.60	0.31	0.04	0.60 *	0.07	0.28	0.00	0.00	-0.24	0.31 *	-0.31	-0.04
W	213	D	-1.90	0.03	0.84	0.50	0.05	0.06	0.05	0.84 *	0.00	0.00	-0.26	-0.25	-0.29	0.50 *
W	214	B	0.38	0.02	0.43	0.34	0.16	0.43 *	0.31	0.09	0.01	0.00	-0.12	0.34 *	-0.22	-0.06

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
A	100	C	-0.84	0.02	0.68	0.33	0.10	0.09	0.68 *	0.13	0.01	0.00	-0.23	-0.26	0.33 *	-0.03
A	101	C	-0.85	0.02	0.68	0.48	0.26	0.03	0.68 *	0.03	0.00	0.00	-0.34	-0.24	0.48 *	-0.19
A	102	A	-1.59	0.03	0.80	0.34	0.80 *	0.07	0.06	0.07	0.00	0.00	0.34 *	-0.23	-0.17	-0.12
A	103	C	-0.58	0.02	0.63	0.52	0.07	0.10	0.63 *	0.20	0.01	0.00	-0.27	-0.29	0.52 *	-0.22
A	104	A	-1.07	0.02	0.72	0.53	0.72 *	0.03	0.19	0.06	0.01	0.00	0.53 *	-0.24	-0.33	-0.26
A	105	B	-1.53	0.03	0.79	0.50	0.08	0.79 *	0.08	0.04	0.00	0.00	-0.26	0.50 *	-0.25	-0.29
A	106	C	-1.24	0.03	0.75	0.38	0.15	0.06	0.75 *	0.04	0.01	0.00	-0.10	-0.27	0.38 *	-0.30
A	107	C	-0.40	0.02	0.59	0.38	0.17	0.07	0.59 *	0.17	0.01	0.00	-0.22	-0.33	0.38 *	-0.03
A	108	D	-1.52	0.03	0.79	0.55	0.12	0.03	0.05	0.79 *	0.01	0.00	-0.29	-0.28	-0.31	0.55 *
A	109	A	-2.20	0.03	0.87	0.44	0.87 *	0.06	0.04	0.02	0.01	0.00	0.44 *	-0.23	-0.29	-0.18
A	110	B	-0.29	0.02	0.57	0.40	0.04	0.57 *	0.12	0.26	0.01	0.00	-0.23	0.40 *	-0.24	-0.15
A	111	B	0.19	0.02	0.46	0.37	0.29	0.46 *	0.08	0.16	0.01	0.00	-0.12	0.37 *	-0.24	-0.15
A	112	B	-0.08	0.02	0.52	0.35	0.19	0.52 *	0.20	0.08	0.01	0.00	-0.27	0.35 *	-0.05	-0.15
A	113	C	-1.35	0.03	0.76	0.50	0.12	0.06	0.76 *	0.05	0.01	0.00	-0.26	-0.29	0.50 *	-0.24
A	114	D	-1.20	0.03	0.74	0.42	0.07	0.10	0.08	0.74 *	0.01	0.00	-0.26	-0.19	-0.19	0.42 *
A	115	C	0.76	0.02	0.35	0.25	0.15	0.22	0.35 *	0.28	0.01	0.00	-0.08	-0.23	0.25 *	0.02 ?
A	116	C	1.11	0.02	0.28	0.13	0.49	0.08	0.28 *	0.14	0.01	0.00	0.04 ?	-0.16	0.13 *	-0.08
A	117	B	-2.06	0.03	0.86	0.39	0.06	0.86 *	0.03	0.05	0.00	0.00	-0.20	0.39 *	-0.17	-0.24
A	118	B	-0.61	0.02	0.63	0.38	0.29	0.63 *	0.04	0.04	0.00	0.00	-0.23	0.38 *	-0.21	-0.17
A	119	B	-1.57	0.03	0.80	0.48	0.09	0.80 *	0.05	0.06	0.00	0.00	-0.19	0.48 *	-0.33	-0.25
A	120	B	-1.22	0.03	0.74	0.37	0.10	0.74 *	0.09	0.07	0.01	0.00	-0.20	0.37 *	-0.16	-0.19
A	121	B	-1.96	0.03	0.85	0.45	0.07	0.85 *	0.04	0.04	0.01	0.00	-0.20	0.45 *	-0.31	-0.24
A	122	C	0.24	0.02	0.45	0.45	0.30	0.05	0.45 *	0.19	0.01	0.00	-0.17	-0.26	0.45 *	-0.20
A	123	B	-1.19	0.03	0.74	0.45	0.05	0.74 *	0.06	0.15	0.01	0.00	-0.20	0.45 *	-0.23	-0.25
A	124	B	-0.48	0.02	0.60	0.30	0.07	0.60 *	0.25	0.07	0.01	0.00	-0.26	0.30 *	-0.11	-0.09
A	125	D	-0.43	0.02	0.60	0.35	0.15	0.09	0.16	0.60 *	0.01	0.00	-0.15	-0.18	-0.15	0.35 *
A	126	C	0.98	0.02	0.30	0.17	0.08	0.45	0.30 *	0.16	0.01	0.00	-0.19	0.06 ?	0.17 *	-0.12
A	127	C	-1.09	0.02	0.72	0.47	0.05	0.04	0.72 *	0.18	0.01	0.00	-0.25	-0.30	0.47 *	-0.23
A	128	C	-1.67	0.03	0.81	0.45	0.06	0.04	0.81 *	0.08	0.01	0.00	-0.29	-0.29	0.45 *	-0.15
A	129	D	0.48	0.02	0.40	0.15	0.05	0.18	0.35	0.40 *	0.01	0.00	-0.26	-0.08	0.05 ?	0.15 *
A	130	A	-0.15	0.02	0.54	0.37	0.54 *	0.18	0.11	0.18	0.01	0.00	0.37 *	-0.19	-0.21	-0.11
A	131	C	0.06	0.02	0.49	0.28	0.20	0.11	0.49 *	0.19	0.01	0.00	-0.05	-0.21	0.28 *	-0.11
A	132	D	0.55	0.02	0.39	0.42	0.30	0.24	0.06	0.39 *	0.01	0.00	-0.12	-0.21	-0.22	0.42 *
A	133	A	-1.18	0.03	0.74	0.47	0.74 *	0.15	0.08	0.03	0.01	0.00	0.47 *	-0.22	-0.32	-0.22
A	134	B	-1.53	0.03	0.79	0.52	0.12	0.79 *	0.04	0.04	0.01	0.00	-0.29	0.52 *	-0.29	-0.25
A	135	B	0.39	0.02	0.42	0.12	0.04	0.42 *	0.10	0.43	0.01	0.00	-0.31	0.12 *	-0.15	0.11 ?
A	136	C	-1.26	0.03	0.75	0.34	0.09	0.05	0.75 *	0.11	0.01	0.00	-0.15	-0.33	0.34 *	-0.08
A	137	A	-1.41	0.03	0.77	0.52	0.77 *	0.05	0.05	0.12	0.01	0.00	0.52 *	-0.30	-0.34	-0.21
A	138	C	-2.25	0.03	0.88	0.55	0.04	0.05	0.88 *	0.02	0.01	0.00	-0.31	-0.33	0.55 *	-0.24
A	139	A	1.77	0.03	0.18	0.11	0.18 *	0.23	0.16	0.43	0.01	0.00	0.11 *	-0.10	-0.16	0.14 ?

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
B	100	C	-0.24	0.02	0.56	0.34	0.29	0.03	0.56 *	0.12	0.01	0.00	-0.17	-0.22	0.34 *	-0.13
B	101	B	-0.61	0.02	0.63	0.40	0.06	0.63 *	0.15	0.15	0.01	0.00	-0.25	0.40 *	-0.09	-0.27
B	102	D	-1.49	0.03	0.79	0.52	0.09	0.08	0.05	0.79 *	0.00	0.00	-0.25	-0.27	-0.31	0.52 *
B	103	D	-0.43	0.02	0.60	0.42	0.03	0.27	0.10	0.60 *	0.01	0.00	-0.19	-0.30	-0.12	0.42 *
B	104	C	-1.50	0.03	0.79	0.46	0.08	0.10	0.79 *	0.03	0.01	0.00	-0.13	-0.35	0.46 *	-0.24
B	105	C	-1.27	0.03	0.75	0.41	0.09	0.04	0.75 *	0.12	0.00	0.00	-0.15	-0.29	0.41 *	-0.22
B	106	A	-0.06	0.02	0.52	0.03	0.52 *	0.03	0.39	0.06	0.01	0.00	0.03 *	-0.24	0.20 ?	-0.29
B	107	C	-1.70	0.03	0.82	0.48	0.04	0.08	0.82 *	0.06	0.00	0.00	-0.30	-0.21	0.48 *	-0.27
B	108	C	0.20	0.02	0.46	0.40	0.24	0.25	0.46 *	0.04	0.01	0.00	-0.13	-0.23	0.40 *	-0.20
B	109	D	0.13	0.02	0.48	0.27	0.15	0.25	0.13	0.48 *	0.01	0.00	-0.02	-0.14	-0.18	0.27 *
B	110	B	-0.18	0.02	0.54	0.38	0.24	0.54 *	0.06	0.15	0.01	0.00	-0.13	0.38 *	-0.27	-0.17
B	111	C	-0.53	0.02	0.62	0.47	0.15	0.12	0.62 *	0.11	0.01	0.00	-0.33	-0.20	0.47 *	-0.13
B	112	A	-2.65	0.04	0.91	0.37	0.91 *	0.02	0.04	0.03	0.00	0.00	0.37 *	-0.25	-0.22	-0.12
B	113	C	-2.16	0.03	0.87	0.33	0.08	0.02	0.87 *	0.03	0.00	0.00	-0.16	-0.24	0.33 *	-0.17
B	114	A	-2.52	0.04	0.90	0.41	0.90 *	0.02	0.04	0.04	0.00	0.00	0.41 *	-0.27	-0.17	-0.22
B	115	D	-1.20	0.03	0.74	0.33	0.08	0.11	0.07	0.74 *	0.01	0.00	-0.14	-0.11	-0.26	0.33 *
B	116	C	-1.06	0.02	0.72	0.11	0.20	0.05	0.72 *	0.03	0.01	0.00	0.16 ?	-0.31	0.11 *	-0.22
B	117	D	-0.81	0.02	0.67	0.53	0.17	0.05	0.10	0.67 *	0.00	0.00	-0.22	-0.27	-0.32	0.53 *
B	118	C	-0.68	0.02	0.65	0.47	0.22	0.10	0.65 *	0.04	0.00	0.00	-0.29	-0.19	0.47 *	-0.22
B	119	B	-1.71	0.03	0.82	0.51	0.10	0.82 *	0.03	0.05	0.00	0.00	-0.27	0.51 *	-0.24	-0.31
B	120	D	-0.39	0.02	0.59	0.52	0.07	0.16	0.18	0.59 *	0.01	0.00	-0.22	-0.26	-0.25	0.52 *
B	121	B	-1.81	0.03	0.83	0.53	0.05	0.83 *	0.06	0.05	0.01	0.00	-0.30	0.53 *	-0.31	-0.23
B	122	D	-0.93	0.02	0.69	0.54	0.12	0.13	0.05	0.69 *	0.01	0.00	-0.30	-0.28	-0.23	0.54 *
B	123	A	-1.21	0.03	0.74	0.54	0.74 *	0.04	0.14	0.07	0.01	0.00	0.54 *	-0.28	-0.34	-0.22
B	124	A	-1.86	0.03	0.84	0.46	0.84 *	0.05	0.04	0.07	0.01	0.00	0.46 *	-0.31	-0.21	-0.21
B	125	A	-0.49	0.02	0.61	0.44	0.61 *	0.13	0.12	0.13	0.01	0.00	0.44 *	-0.17	-0.26	-0.19
B	126	C	0.14	0.02	0.47	0.30	0.08	0.13	0.47 *	0.31	0.01	0.00	-0.22	-0.25	0.30 *	0.00 ?
B	127	C	-0.93	0.02	0.69	0.52	0.11	0.08	0.69 *	0.11	0.01	0.00	-0.26	-0.33	0.52 *	-0.18
B	128	C	-0.37	0.02	0.58	0.50	0.10	0.17	0.58 *	0.14	0.01	0.00	-0.16	-0.34	0.50 *	-0.17
B	129	B	-0.37	0.02	0.58	0.08	0.24	0.58 *	0.07	0.10	0.01	0.00	0.20 ?	0.08 *	-0.34	-0.10
B	130	D	0.42	0.02	0.41	0.38	0.27	0.11	0.20	0.41 *	0.01	0.00	0.00	-0.26	-0.23	0.38 *
B	131	B	0.55	0.02	0.39	0.26	0.18	0.39 *	0.16	0.26	0.01	0.00	-0.18	0.26 *	-0.21	0.07 ?
B	132	A	-0.87	0.02	0.68	0.43	0.68 *	0.04	0.24	0.03	0.01	0.00	0.43 *	-0.31	-0.22	-0.20
B	133	D	-1.24	0.03	0.75	0.50	0.06	0.13	0.06	0.75 *	0.01	0.00	-0.24	-0.29	-0.23	0.50 *
B	134	A	-0.84	0.02	0.68	0.46	0.68 *	0.20	0.08	0.04	0.01	0.00	0.46 *	-0.25	-0.22	-0.23
B	135	B	0.47	0.02	0.40	0.20	0.38	0.40 *	0.14	0.06	0.01	0.00	0.06 ?	0.20 *	-0.16	-0.25
B	136	A	0.34	0.02	0.43	0.35	0.43 *	0.16	0.35	0.05	0.01	0.00	0.35 *	-0.08	-0.19	-0.17
B	137	C	-0.19	0.02	0.54	0.39	0.15	0.13	0.54 *	0.17	0.01	0.00	-0.13	-0.32	0.39 *	-0.07
B	138	C	-1.58	0.03	0.80	0.47	0.04	0.13	0.80 *	0.03	0.01	0.00	-0.28	-0.29	0.47 *	-0.17
B	139	A	0.65	0.02	0.37	0.16	0.37 *	0.14	0.38	0.11	0.01	0.00	0.16 *	-0.19	0.12 ?	-0.18

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
C	100	B	-0.65	0.02	0.64	0.37	0.22	0.64 *	0.09	0.04	0.01	0.00	-0.14	0.37 *	-0.23	-0.23
C	101	C	1.30	0.03	0.24	0.19	0.09	0.60 ?	0.24 *	0.06	0.01	0.00	-0.25	0.07 ?	0.19 *	-0.15
C	102	B	-1.60	0.03	0.80	0.44	0.06	0.80 *	0.04	0.09	0.01	0.00	-0.21	0.44 *	-0.21	-0.28
C	103	A	-1.23	0.03	0.75	0.46	0.75 *	0.12	0.08	0.04	0.01	0.00	0.46 *	-0.22	-0.29	-0.21
C	104	C	-0.54	0.02	0.62	0.48	0.09	0.08	0.62 *	0.21	0.00	0.00	-0.24	-0.23	0.48 *	-0.24
C	105	A	-1.87	0.03	0.84	0.46	0.84 *	0.06	0.03	0.06	0.00	0.00	0.46 *	-0.27	-0.30	-0.19
C	106	C	0.25	0.02	0.45	0.20	0.37	0.08	0.45 *	0.09	0.00	0.00	0.04 ?	-0.25	0.20 *	-0.15
C	107	C	-1.25	0.03	0.75	0.34	0.13	0.05	0.75 *	0.07	0.00	0.00	-0.15	-0.27	0.34 *	-0.15
C	108	B	-1.45	0.03	0.78	0.45	0.09	0.78 *	0.07	0.06	0.01	0.00	-0.29	0.45 *	-0.15	-0.26
C	109	A	0.21	0.02	0.46	0.31	0.46 *	0.35	0.07	0.12	0.00	0.00	0.31 *	-0.15	-0.22	-0.07
C	110	C	-0.37	0.02	0.58	0.38	0.10	0.15	0.58 *	0.17	0.00	0.00	-0.18	-0.24	0.38 *	-0.11
C	111	D	-0.43	0.02	0.60	0.52	0.15	0.15	0.10	0.60 *	0.01	0.00	-0.20	-0.32	-0.21	0.52 *
C	112	A	0.27	0.02	0.45	0.35	0.45 *	0.12	0.28	0.15	0.01	0.00	0.35 *	-0.18	-0.14	-0.13
C	113	D	-0.96	0.02	0.70	0.47	0.07	0.08	0.15	0.70 *	0.01	0.00	-0.24	-0.13	-0.33	0.47 *
C	114	D	0.65	0.02	0.37	0.12	0.16	0.10	0.38	0.37 *	0.01	0.00	-0.21	-0.24	0.20 ?	0.12 *
C	115	C	0.36	0.02	0.43	0.13	0.07	0.40	0.43 *	0.10	0.01	0.00	-0.15	0.02 ?	0.13 *	-0.11
C	116	A	-0.75	0.02	0.66	0.33	0.66 *	0.04	0.21	0.09	0.00	0.00	0.33 *	-0.27	-0.17	-0.10
C	117	A	1.16	0.02	0.27	0.14	0.27 *	0.21	0.24	0.28	0.00	0.00	0.14 *	0.14 ?	-0.10	-0.15
C	118	D	-2.22	0.03	0.88	0.43	0.05	0.04	0.04	0.88 *	0.00	0.00	-0.22	-0.28	-0.20	0.43 *
C	119	B	0.03	0.02	0.50	0.31	0.09	0.50 *	0.06	0.35	0.00	0.00	-0.24	0.31 *	-0.22	-0.06
C	120	C	-1.84	0.03	0.84	0.53	0.06	0.08	0.84 *	0.02	0.00	0.00	-0.35	-0.28	0.53 *	-0.19
C	121	C	-0.64	0.02	0.64	0.29	0.16	0.12	0.64 *	0.07	0.01	0.00	-0.07	-0.15	0.29 *	-0.23
C	122	A	-0.69	0.02	0.65	0.50	0.65 *	0.16	0.12	0.07	0.01	0.00	0.50 *	-0.26	-0.24	-0.23
C	123	C	-1.16	0.02	0.74	0.21	0.08	0.06	0.74 *	0.13	0.01	0.00	-0.16	-0.18	0.21 *	-0.01
C	124	D	-0.56	0.02	0.62	0.55	0.07	0.18	0.12	0.62 *	0.01	0.00	-0.29	-0.30	-0.21	0.55 *
C	125	B	-2.16	0.03	0.87	0.52	0.03	0.87 *	0.06	0.04	0.00	0.00	-0.28	0.52 *	-0.28	-0.28
C	126	B	-1.95	0.03	0.85	0.47	0.05	0.85 *	0.07	0.02	0.00	0.00	-0.27	0.47 *	-0.24	-0.25
C	127	C	-0.78	0.02	0.67	0.31	0.06	0.15	0.67 *	0.12	0.00	0.00	-0.19	-0.17	0.31 *	-0.10
C	128	A	-0.49	0.02	0.61	0.33	0.61 *	0.09	0.06	0.24	0.01	0.00	0.33 *	-0.31	-0.24	-0.02
C	129	B	-1.57	0.03	0.80	0.41	0.09	0.80 *	0.03	0.08	0.00	0.00	-0.24	0.41 *	-0.29	-0.14
C	130	D	0.62	0.02	0.37	0.25	0.35	0.07	0.20	0.37 *	0.01	0.00	0.09 ?	-0.26	-0.23	0.25 *
C	131	B	-0.23	0.02	0.55	0.41	0.08	0.55 *	0.13	0.23	0.01	0.00	-0.22	0.41 *	-0.19	-0.16
C	132	B	1.24	0.02	0.25	0.19	0.08	0.25 *	0.65 ?	0.02	0.01	0.00	-0.20	0.19 *	0.01 ?	-0.21
C	133	C	-1.16	0.02	0.74	0.50	0.13	0.07	0.74 *	0.07	0.01	0.00	-0.30	-0.29	0.50 *	-0.17
C	134	B	-0.70	0.02	0.65	0.34	0.17	0.65 *	0.15	0.02	0.01	0.00	-0.12	0.34 *	-0.20	-0.23
C	135	A	0.06	0.02	0.49	0.27	0.49 *	0.16	0.10	0.24	0.01	0.00	0.27 *	-0.16	-0.26	0.02 ?
C	136	C	0.97	0.02	0.30	0.31	0.10	0.51 ?	0.30 *	0.08	0.01	0.00	-0.26	-0.02	0.31 *	-0.17
C	137	C	1.28	0.03	0.25	0.20	0.39	0.25 *	0.25 *	0.11	0.01	0.00	0.02 ?	-0.21	0.20 *	0.01 ?
C	138	B	-0.20	0.02	0.55	0.27	0.08	0.55 *	0.30	0.07	0.01	0.00	-0.22	0.27 *	0.00 ?	-0.26
C	139	B	-0.57	0.02	0.63	0.33	0.27	0.63 *	0.05	0.05	0.01	0.00	-0.13	0.33 *	-0.20	-0.24

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
D	100	C	-1.14	0.02	0.73	0.38	0.10	0.13	0.73 *	0.04	0.01	0.00	-0.07	-0.34	0.38 *	-0.14
D	101	A	-1.61	0.03	0.80	0.43	0.80 *	0.13	0.05	0.02	0.01	0.00	0.43 *	-0.27	-0.24	-0.18
D	102	C	0.37	0.02	0.43	0.33	0.22	0.17	0.43 *	0.18	0.01	0.00	-0.27	-0.07	0.33 *	-0.04
D	103	B	-1.62	0.03	0.80	0.48	0.10	0.80 *	0.04	0.05	0.01	0.00	-0.26	0.48 *	-0.27	-0.24
D	104	C	0.35	0.02	0.43	0.34	0.10	0.34	0.43 *	0.13	0.01	0.00	-0.21	-0.20	0.34 *	-0.03
D	105	C	-0.66	0.02	0.64	0.28	0.02	0.05	0.64 *	0.28	0.00	0.00	-0.26	-0.29	0.28 *	-0.06
D	106	C	-1.34	0.03	0.76	0.38	0.03	0.17	0.76 *	0.03	0.01	0.00	-0.22	-0.21	0.38 *	-0.23
D	107	B	-2.20	0.03	0.87	0.42	0.04	0.87 *	0.06	0.02	0.00	0.00	-0.21	0.42 *	-0.23	-0.26
D	108	B	-0.23	0.02	0.55	0.40	0.25	0.55 *	0.14	0.05	0.01	0.00	-0.13	0.40 *	-0.23	-0.26
D	109	C	-0.39	0.02	0.59	0.39	0.12	0.16	0.59 *	0.13	0.00	0.00	-0.19	-0.26	0.39 *	-0.09
D	110	B	-0.71	0.02	0.65	0.29	0.09	0.65 *	0.22	0.03	0.00	0.00	-0.18	0.29 *	-0.09	-0.22
D	111	A	0.22	0.02	0.46	0.36	0.46 *	0.14	0.29	0.11	0.01	0.00	0.36 *	-0.16	-0.11	-0.22
D	112	D	-1.15	0.02	0.73	0.55	0.13	0.08	0.05	0.73 *	0.00	0.00	-0.28	-0.29	-0.29	0.55 *
D	113	C	-0.93	0.02	0.69	0.24	0.07	0.06	0.69 *	0.18	0.00	0.00	-0.22	-0.24	0.24 *	0.01 ?
D	114	B	-0.65	0.02	0.64	0.21	0.13	0.64 *	0.06	0.17	0.01	0.00	-0.09	0.21 *	-0.22	-0.04
D	115	D	0.48	0.02	0.40	0.23	0.09	0.31	0.20	0.40 *	0.01	0.00	-0.20	0.04 ?	-0.17	0.23 *
D	116	C	-1.46	0.03	0.78	0.33	0.08	0.06	0.78 *	0.08	0.00	0.00	-0.18	-0.20	0.33 *	-0.13
D	117	C	-1.26	0.03	0.75	0.40	0.04	0.19	0.75 *	0.02	0.00	0.00	-0.28	-0.21	0.40 *	-0.24
D	118	C	-2.14	0.03	0.87	0.47	0.07	0.04	0.87 *	0.02	0.00	0.00	-0.31	-0.23	0.47 *	-0.22
D	119	B	0.03	0.02	0.50	0.48	0.08	0.50 *	0.28	0.13	0.00	0.00	-0.23	0.48 *	-0.21	-0.22
D	120	D	0.24	0.02	0.45	0.23	0.28	0.16	0.10	0.45 *	0.01	0.00	-0.05	-0.09	-0.17	0.23 *
D	121	A	-0.08	0.02	0.52	0.25	0.52 *	0.05	0.24	0.19	0.01	0.00	0.25 *	-0.18	-0.09	-0.10
D	122	D	-1.77	0.03	0.82	0.55	0.05	0.08	0.05	0.82 *	0.01	0.00	-0.30	-0.30	-0.26	0.55 *
D	123	D	-0.40	0.02	0.59	0.38	0.06	0.29	0.06	0.59 *	0.01	0.00	-0.28	-0.07	-0.33	0.38 *
D	124	C	-1.73	0.03	0.82	0.57	0.08	0.05	0.82 *	0.05	0.01	0.00	-0.30	-0.35	0.57 *	-0.25
D	125	A	-1.58	0.03	0.80	0.49	0.80 *	0.07	0.06	0.07	0.01	0.00	0.49 *	-0.22	-0.29	-0.24
D	126	A	-1.88	0.03	0.84	0.54	0.84 *	0.05	0.06	0.05	0.01	0.00	0.54 *	-0.29	-0.27	-0.30
D	127	C	-2.13	0.03	0.87	0.56	0.04	0.07	0.87 *	0.03	0.01	0.00	-0.29	-0.35	0.56 *	-0.26
D	128	D	-0.61	0.02	0.63	0.35	0.13	0.15	0.09	0.63 *	0.01	0.00	-0.20	-0.17	-0.12	0.35 *
D	129	B	-0.92	0.02	0.69	0.47	0.13	0.69 *	0.09	0.08	0.01	0.00	-0.25	0.47 *	-0.20	-0.24
D	130	C	-0.42	0.02	0.59	0.45	0.15	0.16	0.59 *	0.10	0.01	0.00	-0.27	-0.19	0.45 *	-0.16
D	131	D	0.30	0.02	0.44	0.37	0.17	0.17	0.21	0.44 *	0.01	0.00	-0.25	-0.05	-0.14	0.37 *
D	132	D	-2.03	0.03	0.86	0.51	0.04	0.05	0.05	0.86 *	0.01	0.00	-0.28	-0.28	-0.25	0.51 *
D	133	B	-1.22	0.03	0.74	0.34	0.08	0.74 *	0.13	0.05	0.01	0.00	-0.19	0.34 *	-0.10	-0.26
D	134	B	0.43	0.02	0.41	0.08	0.30	0.41 *	0.07	0.22	0.01	0.00	0.04 ?	0.08 *	-0.29	0.06 ?
D	135	B	-0.61	0.02	0.63	0.42	0.12	0.63 *	0.15	0.09	0.01	0.00	-0.11	0.42 *	-0.25	-0.25
D	136	B	-2.54	0.04	0.90	0.43	0.03	0.90 *	0.03	0.03	0.01	0.00	-0.24	0.43 *	-0.27	-0.18
D	137	C	-1.38	0.03	0.77	0.46	0.09	0.10	0.77 *	0.03	0.01	0.00	-0.23	-0.26	0.46 *	-0.21
D	138	A	-0.53	0.02	0.61	0.53	0.61 *	0.09	0.18	0.11	0.01	0.00	0.53 *	-0.27	-0.27	-0.22
D	139	C	-1.60	0.03	0.80	0.41	0.13	0.04	0.80 *	0.02	0.01	0.00	-0.21	-0.26	0.41 *	-0.23

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
E	100	B	-1.45	0.03	0.78	0.28	0.07	0.78 *	0.08	0.06	0.01	0.00	-0.21	0.28 *	-0.07	-0.14
E	101	B	-2.04	0.03	0.86	0.38	0.07	0.86 *	0.03	0.04	0.00	0.00	-0.15	0.38 *	-0.28	-0.22
E	102	C	0.14	0.02	0.47	0.46	0.28	0.05	0.47 *	0.19	0.01	0.00	-0.19	-0.21	0.46 *	-0.24
E	103	B	-1.57	0.03	0.80	0.45	0.03	0.80 *	0.04	0.12	0.00	0.00	-0.18	0.45 *	-0.22	-0.30
E	104	B	-0.55	0.02	0.62	0.27	0.06	0.62 *	0.26	0.06	0.01	0.00	-0.22	0.27 *	-0.11	-0.11
E	105	D	-0.61	0.02	0.63	0.31	0.12	0.09	0.16	0.63 *	0.00	0.00	-0.14	-0.17	-0.13	0.31 *
E	106	C	0.96	0.02	0.31	0.17	0.06	0.45	0.31 *	0.17	0.01	0.00	-0.16	0.03 ?	0.17 *	-0.13
E	107	C	-1.15	0.02	0.74	0.44	0.04	0.04	0.74 *	0.18	0.01	0.00	-0.25	-0.22	0.44 *	-0.24
E	108	C	-1.94	0.03	0.85	0.38	0.05	0.03	0.85 *	0.07	0.00	0.00	-0.27	-0.28	0.38 *	-0.10
E	109	D	0.13	0.02	0.48	0.13	0.04	0.15	0.33	0.48 *	0.01	0.00	-0.24	-0.06	0.02 ?	0.13 *
E	110	A	-0.27	0.02	0.56	0.38	0.56 *	0.12	0.09	0.23	0.01	0.00	0.38 *	-0.19	-0.20	-0.15
E	111	C	0.50	0.02	0.40	0.24	0.26	0.15	0.40 *	0.19	0.01	0.00	-0.01	-0.23	0.24 *	-0.06
E	112	D	0.37	0.02	0.42	0.40	0.29	0.23	0.06	0.42 *	0.00	0.00	-0.12	-0.22	-0.21	0.40 *
E	113	A	-1.35	0.03	0.77	0.46	0.77 *	0.14	0.07	0.02	0.01	0.00	0.46 *	-0.20	-0.34	-0.21
E	114	B	-1.67	0.03	0.81	0.50	0.12	0.81 *	0.04	0.03	0.00	0.00	-0.31	0.50 *	-0.26	-0.22
E	115	B	0.28	0.02	0.44	0.16	0.03	0.44 *	0.10	0.43	0.01	0.00	-0.26	0.16 *	-0.13	0.02 ?
E	116	C	-1.40	0.03	0.77	0.31	0.08	0.04	0.77 *	0.11	0.01	0.00	-0.14	-0.31	0.31 *	-0.08
E	117	A	-1.62	0.03	0.81	0.48	0.81 *	0.03	0.04	0.11	0.00	0.00	0.48 *	-0.27	-0.29	-0.23
E	118	C	-2.57	0.04	0.91	0.50	0.02	0.04	0.91 *	0.02	0.00	0.00	-0.25	-0.31	0.50 *	-0.25
E	119	A	1.65	0.03	0.19	0.13	0.19 *	0.21	0.12	0.47	0.00	0.00	0.13 *	-0.14	-0.14	0.12 ?
E	120	B	-0.35	0.02	0.58	0.28	0.26	0.58 *	0.08	0.07	0.01	0.00	-0.05	0.28 *	-0.27	-0.13
E	121	C	-0.22	0.02	0.55	0.25	0.06	0.34	0.55 *	0.04	0.01	0.00	-0.18	-0.07	0.25 *	-0.20
E	122	A	0.66	0.02	0.36	0.30	0.36 *	0.11	0.29	0.23	0.01	0.00	0.30 *	-0.21	-0.17	0.00 ?
E	123	B	-0.95	0.02	0.70	0.39	0.11	0.70 *	0.11	0.07	0.01	0.00	-0.23	0.39 *	-0.18	-0.14
E	124	B	-0.37	0.02	0.58	0.40	0.15	0.58 *	0.12	0.14	0.01	0.00	-0.22	0.40 *	-0.21	-0.11
E	125	C	-0.75	0.02	0.66	0.38	0.08	0.18	0.66 *	0.08	0.01	0.00	-0.28	-0.15	0.38 *	-0.14
E	126	C	-2.00	0.03	0.85	0.46	0.07	0.03	0.85 *	0.04	0.01	0.00	-0.24	-0.31	0.46 *	-0.22
E	127	C	-1.24	0.03	0.75	0.46	0.13	0.09	0.75 *	0.03	0.01	0.00	-0.20	-0.28	0.46 *	-0.27
E	128	B	-0.39	0.02	0.59	0.21	0.22	0.59 *	0.13	0.06	0.01	0.00	0.11 ?	0.21 *	-0.27	-0.22
E	129	C	-1.75	0.03	0.83	0.42	0.05	0.05	0.83 *	0.07	0.01	0.00	-0.25	-0.28	0.42 *	-0.14
E	130	B	1.15	0.02	0.27	-0.18	0.30	0.27 *	0.24	0.19	0.01	0.00	0.18 ?	-0.18 *	0.02 ?	0.00
E	131	B	-0.02	0.02	0.51	0.10	0.15	0.51 *	0.15	0.18	0.01	0.00	-0.19	0.10 *	-0.11	0.18 ?
E	132	C	1.18	0.02	0.26	0.24	0.27	0.18	0.26 *	0.28	0.01	0.00	-0.13	-0.21	0.24 *	0.09 ?
E	133	D	-0.75	0.02	0.66	0.57	0.11	0.09	0.13	0.66 *	0.01	0.00	-0.27	-0.31	-0.26	0.57 *
E	134	A	-0.59	0.02	0.63	0.37	0.63 *	0.18	0.10	0.09	0.01	0.00	0.37 *	-0.13	-0.22	-0.19
E	135	D	-1.26	0.03	0.75	0.45	0.09	0.07	0.08	0.75 *	0.01	0.00	-0.25	-0.24	-0.19	0.45 *
E	136	B	-1.24	0.03	0.75	0.36	0.03	0.75 *	0.06	0.16	0.01	0.00	-0.28	0.36 *	-0.33	-0.06
E	137	D	-1.37	0.03	0.77	0.49	0.11	0.08	0.04	0.77 *	0.01	0.00	-0.18	-0.33	-0.28	0.49 *
E	138	C	-0.60	0.02	0.63	0.31	0.04	0.26	0.63 *	0.06	0.01	0.00	-0.30	-0.07	0.31 *	-0.23
E	139	B	0.58	0.02	0.38	0.42	0.07	0.38 *	0.15	0.40	0.01	0.00	-0.24	0.42 *	-0.15	-0.16

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)			
F	100	D	-0.54	0.02	0.62	0.51	0.06	0.14	0.17	0.62	*	0.01	0.00	-0.21	-0.28	-0.25	0.51	*	
F	101	B	-2.17	0.03	0.87	0.48	0.04	0.87	*	0.05	0.04	0.00	0.00	-0.27	0.48	*	-0.29	-0.22	
F	102	D	-1.07	0.02	0.72	0.51	0.11	0.13	0.04	0.72	*	0.01	0.00	-0.31	-0.26	-0.21	0.51	*	
F	103	A	-1.45	0.03	0.78	0.53	0.78	*	0.03	0.13	0.06	0.00	0.00	0.53	*	-0.25	-0.37	-0.21	
F	104	A	-2.20	0.03	0.87	0.41	0.87	*	0.03	0.04	0.05	0.00	0.00	0.41	*	-0.26	-0.21	-0.20	
F	105	A	-0.65	0.02	0.64	0.42	0.64	*	0.11	0.11	0.14	0.01	0.00	0.42	*	-0.15	-0.24	-0.20	
F	106	C	0.13	0.02	0.48	0.27	0.08	0.11	0.48	*	0.33	0.00	0.00	-0.19	-0.23	0.27	*	-0.02	
F	107	C	-1.13	0.02	0.73	0.50	0.10	0.06	0.73	*	0.11	0.01	0.00	-0.26	-0.30	0.50	*	-0.20	
F	108	C	-0.57	0.02	0.62	0.48	0.10	0.16	0.62	*	0.11	0.01	0.00	-0.16	-0.37	0.48	*	-0.14	
F	109	B	-0.26	0.02	0.56	0.04	0.27	0.56	*	0.06	0.10	0.01	0.00	0.20	?	0.04	*	-0.30	-0.09
F	110	D	0.47	0.02	0.40	0.34	0.26	0.09	0.24	0.40	*	0.01	0.00	0.05	?	-0.22	-0.28	0.34	*
F	111	B	0.49	0.02	0.40	0.24	0.20	0.40	*	0.14	0.26	0.01	0.00	-0.16	0.24	*	-0.23	0.06	?
F	112	A	-1.07	0.02	0.72	0.43	0.72	*	0.03	0.23	0.02	0.01	0.00	0.43	*	-0.27	-0.26	-0.22	
F	113	D	-1.32	0.03	0.76	0.45	0.05	0.13	0.06	0.76	*	0.01	0.00	-0.21	-0.28	-0.19	0.45	*	
F	114	A	-0.79	0.02	0.67	0.43	0.67	*	0.20	0.09	0.04	0.01	0.00	0.43	*	-0.24	-0.20	-0.22	
F	115	B	0.22	0.02	0.46	0.23	0.36	0.46	*	0.12	0.06	0.01	0.00	0.01	?	0.23	*	-0.18	-0.23
F	116	A	0.28	0.02	0.44	0.35	0.44	*	0.14	0.37	0.04	0.01	0.00	0.35	*	-0.07	-0.23	-0.16	
F	117	C	-0.19	0.02	0.54	0.38	0.14	0.12	0.54	*	0.19	0.00	0.00	-0.14	-0.30	0.38	*	-0.10	
F	118	C	-1.88	0.03	0.84	0.42	0.03	0.11	0.84	*	0.02	0.00	0.00	-0.25	-0.28	0.42	*	-0.13	
F	119	A	0.51	0.02	0.39	0.16	0.39	*	0.13	0.37	0.10	0.01	0.00	0.16	*	-0.17	0.10	?	-0.21
F	120	C	-2.24	0.03	0.88	0.48	0.06	0.04	0.88	*	0.02	0.01	0.00	-0.28	-0.29	0.48	*	-0.18	
F	121	A	-0.59	0.02	0.63	0.40	0.63	*	0.15	0.11	0.10	0.01	0.00	0.40	*	-0.19	-0.21	-0.16	
F	122	D	-0.83	0.02	0.67	0.44	0.03	0.04	0.25	0.67	*	0.01	0.00	-0.27	-0.29	-0.23	0.44	*	
F	123	B	0.58	0.02	0.38	0.27	0.04	0.38	*	0.53	?	0.01	0.00	-0.23	0.27	*	-0.06	-0.24	
F	124	A	-0.55	0.02	0.62	0.43	0.62	*	0.16	0.08	0.14	0.01	0.00	0.43	*	-0.27	-0.17	-0.17	
F	125	B	-1.04	0.02	0.71	0.50	0.09	0.71	*	0.14	0.05	0.01	0.00	-0.22	0.50	*	-0.31	-0.22	
F	126	A	-0.04	0.02	0.51	0.40	0.51	*	0.09	0.06	0.33	0.01	0.00	0.40	*	-0.32	-0.28	-0.07	
F	127	C	-1.18	0.02	0.74	0.30	0.12	0.11	0.74	*	0.04	0.01	0.00	-0.02	-0.21	0.30	*	-0.28	
F	128	D	-0.38	0.02	0.59	0.44	0.12	0.18	0.12	0.59	*	0.01	0.00	-0.25	-0.18	-0.19	0.44	*	
F	129	D	-0.77	0.02	0.66	0.55	0.10	0.10	0.13	0.66	*	0.01	0.00	-0.21	-0.29	-0.29	0.55	*	
F	130	A	0.34	0.02	0.43	0.13	0.43	*	0.07	0.27	0.23	0.01	0.00	0.13	*	-0.24	0.04	?	-0.03
F	131	B	0.31	0.02	0.44	0.11	0.33	0.44	*	0.16	0.07	0.01	0.00	0.06	?	0.11	*	-0.10	-0.14
F	132	C	-0.16	0.02	0.54	0.42	0.18	0.12	0.54	*	0.15	0.01	0.00	-0.16	-0.17	0.42	*	-0.23	
F	133	B	-0.73	0.02	0.66	0.40	0.07	0.66	*	0.12	0.15	0.01	0.00	-0.27	0.40	*	-0.27	-0.07	
F	134	A	-0.33	0.02	0.58	0.45	0.58	*	0.11	0.25	0.07	0.01	0.00	0.45	*	-0.30	-0.13	-0.25	
F	135	C	-0.75	0.02	0.66	0.43	0.03	0.23	0.66	*	0.07	0.01	0.00	-0.27	-0.23	0.43	*	-0.19	
F	136	B	-0.70	0.02	0.65	0.35	0.04	0.65	*	0.24	0.06	0.01	0.00	-0.29	0.35	*	-0.11	-0.23	
F	137	B	-1.78	0.03	0.83	0.52	0.05	0.83	*	0.06	0.06	0.01	0.00	-0.28	0.52	*	-0.28	-0.25	
F	138	C	-1.44	0.03	0.78	0.32	0.04	0.06	0.78	*	0.11	0.01	0.00	-0.17	-0.17	0.32	*	-0.14	
F	139	B	0.09	0.02	0.48	0.32	0.11	0.48	*	0.19	0.21	0.01	0.00	-0.20	0.32	*	-0.19	-0.02	



**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
G	100	C	0.66	0.02	0.36	0.38	0.09	0.12	0.36 *	0.42	0.01	0.00	-0.21	-0.07	0.38 *	-0.20
G	101	B	-1.61	0.03	0.80	0.46	0.14	0.80 *	0.03	0.02	0.00	0.00	-0.29	0.46 *	-0.27	-0.20
G	102	C	-1.43	0.03	0.78	0.45	0.10	0.09	0.78 *	0.03	0.01	0.00	-0.30	-0.20	0.45 *	-0.21
G	103	C	-0.95	0.02	0.70	0.31	0.15	0.04	0.70 *	0.11	0.01	0.00	-0.16	-0.21	0.31 *	-0.13
G	104	A	-0.06	0.02	0.52	0.40	0.52 *	0.18	0.20	0.10	0.01	0.00	0.40 *	-0.14	-0.20	-0.20
G	105	B	-1.07	0.02	0.72	0.38	0.16	0.72 *	0.08	0.04	0.00	0.00	-0.20	0.38 *	-0.20	-0.20
G	106	D	-0.71	0.02	0.65	0.43	0.18	0.05	0.11	0.65 *	0.00	0.00	-0.17	-0.29	-0.22	0.43 *
G	107	A	-1.32	0.03	0.76	0.47	0.76 *	0.05	0.10	0.08	0.01	0.00	0.47 *	-0.26	-0.22	-0.24
G	108	A	-1.40	0.03	0.77	0.44	0.77 *	0.07	0.08	0.08	0.00	0.00	0.44 *	-0.23	-0.21	-0.24
G	109	C	-1.76	0.03	0.82	0.48	0.05	0.09	0.82 *	0.04	0.00	0.00	-0.29	-0.23	0.48 *	-0.26
G	110	D	-0.56	0.02	0.62	0.36	0.06	0.11	0.20	0.62 *	0.01	0.00	-0.25	-0.15	-0.16	0.36 *
G	111	C	-0.35	0.02	0.58	0.35	0.06	0.10	0.58 *	0.26	0.00	0.00	-0.22	-0.20	0.35 *	-0.13
G	112	B	0.37	0.02	0.42	0.34	0.31	0.42 *	0.11	0.15	0.00	0.00	-0.08	0.34 *	-0.23	-0.15
G	113	C	-1.42	0.03	0.78	0.39	0.06	0.10	0.78 *	0.05	0.01	0.00	-0.24	-0.20	0.39 *	-0.16
G	114	B	-0.73	0.02	0.65	0.39	0.16	0.65 *	0.11	0.06	0.01	0.00	-0.15	0.39 *	-0.22	-0.21
G	115	C	-0.11	0.02	0.53	0.19	0.30	0.05	0.53 *	0.12	0.00	0.00	0.05 ?	-0.30	0.19 *	-0.16
G	116	C	0.57	0.02	0.38	0.15	0.34	0.20	0.38 *	0.07	0.01	0.00	0.08 ?	-0.13	0.15 *	-0.19
G	117	B	-0.99	0.02	0.70	0.41	0.08	0.70 *	0.07	0.15	0.00	0.00	-0.28	0.41 *	-0.21	-0.16
G	118	C	-0.11	0.02	0.53	0.38	0.27	0.13	0.53 *	0.08	0.00	0.00	-0.07	-0.26	0.38 *	-0.24
G	119	A	-1.48	0.03	0.79	0.42	0.79 *	0.12	0.06	0.04	0.01	0.00	0.42 *	-0.22	-0.26	-0.20
G	120	B	-0.72	0.02	0.65	0.38	0.21	0.65 *	0.09	0.04	0.01	0.00	-0.13	0.38 *	-0.24	-0.24
G	121	C	1.38	0.03	0.23	0.14	0.10	0.59 ?	0.23 *	0.07	0.01	0.00	-0.25	0.14 ?	0.14 *	-0.17
G	122	B	-1.39	0.03	0.77	0.48	0.07	0.77 *	0.05	0.10	0.01	0.00	-0.24	0.48 *	-0.23	-0.27
G	123	A	-0.87	0.02	0.68	0.49	0.68 *	0.16	0.10	0.05	0.01	0.00	0.49 *	-0.21	-0.30	-0.25
G	124	C	-0.30	0.02	0.57	0.51	0.10	0.10	0.57 *	0.22	0.01	0.00	-0.26	-0.27	0.51 *	-0.20
G	125	A	-1.55	0.03	0.80	0.51	0.80 *	0.08	0.04	0.08	0.01	0.00	0.51 *	-0.30	-0.31	-0.20
G	126	C	0.38	0.02	0.42	0.16	0.37	0.11	0.42 *	0.10	0.01	0.00	0.10 ?	-0.23	0.16 *	-0.17
G	127	C	-1.00	0.02	0.71	0.38	0.15	0.06	0.71 *	0.08	0.01	0.00	-0.16	-0.29	0.38 *	-0.15
G	128	B	-1.22	0.02	0.74	0.49	0.11	0.74 *	0.08	0.06	0.01	0.00	-0.28	0.49 *	-0.20	-0.25
G	129	A	0.21	0.02	0.46	0.30	0.46 *	0.34	0.07	0.12	0.01	0.00	0.30 *	-0.11	-0.25	-0.07
G	130	C	-0.42	0.02	0.59	0.41	0.11	0.12	0.59 *	0.17	0.01	0.00	-0.20	-0.27	0.41 *	-0.12
G	131	D	-0.37	0.02	0.58	0.52	0.14	0.16	0.11	0.58 *	0.01	0.00	-0.21	-0.29	-0.20	0.52 *
G	132	A	0.34	0.02	0.43	0.29	0.43 *	0.15	0.27	0.15	0.01	0.00	0.29 *	-0.23	-0.08	-0.06
G	133	D	-0.86	0.02	0.68	0.48	0.08	0.08	0.16	0.68 *	0.01	0.00	-0.24	-0.14	-0.31	0.48 *
G	134	D	0.61	0.02	0.38	0.19	0.17	0.11	0.34	0.38 *	0.01	0.00	-0.23	-0.25	0.17 ?	0.19 *
G	135	C	0.32	0.02	0.44	0.17	0.08	0.40	0.44 *	0.08	0.01	0.00	-0.17	0.02 ?	0.17 *	-0.14
G	136	A	-0.73	0.02	0.65	0.38	0.65 *	0.05	0.21	0.08	0.01	0.00	0.38 *	-0.31	-0.18	-0.11
G	137	A	1.16	0.02	0.27	0.11	0.27 *	0.21	0.25	0.27	0.01	0.00	0.11 *	0.12 ?	-0.08	-0.13
G	138	D	-1.88	0.03	0.84	0.48	0.06	0.05	0.05	0.84 *	0.01	0.00	-0.23	-0.30	-0.24	0.48 *
G	139	B	0.05	0.02	0.49	0.31	0.09	0.49 *	0.07	0.34	0.01	0.00	-0.23	0.31 *	-0.25	-0.03

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
H	100	C	-1.68	0.03	0.81	0.39	0.12	0.03	0.81 *	0.03	0.01	0.00	-0.22	-0.26	0.39 *	-0.15
H	101	C	-0.79	0.02	0.67	0.44	0.07	0.07	0.67 *	0.19	0.01	0.00	-0.26	-0.21	0.44 *	-0.21
H	102	B	0.24	0.02	0.45	0.32	0.03	0.45 *	0.25	0.27	0.00	0.00	-0.25	0.32 *	-0.22	-0.03
H	103	A	-1.42	0.03	0.78	0.32	0.78 *	0.07	0.09	0.06	0.01	0.00	0.32 *	-0.17	-0.11	-0.22
H	104	B	-0.39	0.02	0.59	0.34	0.24	0.59 *	0.07	0.10	0.01	0.00	-0.06	0.34 *	-0.29	-0.22
H	105	C	-1.32	0.03	0.76	0.46	0.09	0.11	0.76 *	0.04	0.01	0.00	-0.23	-0.29	0.46 *	-0.20
H	106	B	0.02	0.02	0.50	0.39	0.03	0.50 *	0.02	0.44	0.01	0.00	-0.22	0.39 *	-0.23	-0.24
H	107	D	-0.91	0.02	0.69	0.54	0.11	0.10	0.10	0.69 *	0.01	0.00	-0.30	-0.26	-0.23	0.54 *
H	108	A	-1.69	0.03	0.82	0.51	0.82 *	0.04	0.10	0.05	0.00	0.00	0.51 *	-0.29	-0.33	-0.19
H	109	B	-1.42	0.03	0.78	0.39	0.12	0.78 *	0.04	0.06	0.00	0.00	-0.14	0.39 *	-0.31	-0.21
H	110	C	0.50	0.02	0.40	0.16	0.15	0.11	0.40 *	0.34	0.01	0.00	-0.26	-0.23	0.16 *	0.19 ?
H	111	D	0.13	0.02	0.48	0.29	0.32	0.10	0.09	0.48 *	0.00	0.00	0.03 ?	-0.28	-0.24	0.29 *
H	112	C	0.95	0.02	0.31	0.07	0.16	0.39	0.31 *	0.15	0.00	0.00	-0.10	0.02 ?	0.07 *	0.00 ?
H	113	D	0.96	0.02	0.30	0.25	0.44	0.10	0.15	0.30 *	0.01	0.00	0.14 ?	-0.26	-0.28	0.25 *
H	114	A	-1.58	0.03	0.80	0.48	0.80 *	0.08	0.06	0.06	0.01	0.00	0.48 *	-0.24	-0.31	-0.20
H	115	B	0.19	0.02	0.46	0.15	0.12	0.46 *	0.38	0.03	0.00	0.00	-0.10	0.15 *	0.00 ?	-0.23
H	116	D	-0.81	0.02	0.67	0.52	0.12	0.08	0.12	0.67 *	0.01	0.00	-0.24	-0.27	-0.26	0.52 *
H	117	A	-2.20	0.03	0.88	0.45	0.88 *	0.07	0.04	0.02	0.00	0.00	0.45 *	-0.28	-0.25	-0.19
H	118	C	-1.36	0.03	0.77	0.40	0.02	0.05	0.77 *	0.16	0.00	0.00	-0.26	-0.24	0.40 *	-0.21
H	119	B	-0.99	0.02	0.71	0.21	0.16	0.71 *	0.10	0.03	0.00	0.00	0.03 ?	0.21 *	-0.20	-0.25
H	120	C	-0.89	0.02	0.69	0.36	0.11	0.14	0.69 *	0.06	0.01	0.00	-0.07	-0.28	0.36 *	-0.19
H	121	A	-1.40	0.03	0.77	0.46	0.77 *	0.13	0.06	0.03	0.01	0.00	0.46 *	-0.25	-0.25	-0.22
H	122	C	0.35	0.02	0.43	0.31	0.23	0.18	0.43 *	0.16	0.01	0.00	-0.27	-0.08	0.31 *	0.00 ?
H	123	B	-1.37	0.03	0.77	0.51	0.12	0.77 *	0.06	0.05	0.01	0.00	-0.27	0.51 *	-0.29	-0.24
H	124	C	0.40	0.02	0.42	0.34	0.12	0.34	0.42 *	0.12	0.01	0.00	-0.22	-0.20	0.34 *	0.02 ?
H	125	C	-0.69	0.02	0.65	0.31	0.03	0.06	0.65 *	0.26	0.01	0.00	-0.26	-0.31	0.31 *	-0.05
H	126	C	-1.07	0.02	0.72	0.38	0.04	0.20	0.72 *	0.03	0.01	0.00	-0.24	-0.20	0.38 *	-0.20
H	127	B	-1.99	0.03	0.85	0.46	0.05	0.85 *	0.07	0.03	0.01	0.00	-0.20	0.46 *	-0.26	-0.28
H	128	B	-0.06	0.02	0.52	0.40	0.27	0.52 *	0.15	0.06	0.01	0.00	-0.15	0.40 *	-0.19	-0.25
H	129	C	-0.35	0.02	0.58	0.39	0.12	0.16	0.58 *	0.13	0.01	0.00	-0.20	-0.22	0.39 *	-0.12
H	130	B	-0.49	0.02	0.61	0.31	0.11	0.61 *	0.24	0.03	0.01	0.00	-0.18	0.31 *	-0.11	-0.22
H	131	A	0.30	0.02	0.44	0.36	0.44 *	0.14	0.30	0.11	0.01	0.00	0.36 *	-0.18	-0.08	-0.21
H	132	D	-0.95	0.02	0.70	0.59	0.14	0.09	0.06	0.70 *	0.01	0.00	-0.30	-0.30	-0.28	0.59 *
H	133	C	-0.88	0.02	0.69	0.27	0.08	0.07	0.69 *	0.16	0.01	0.00	-0.22	-0.25	0.27 *	0.02 ?
H	134	B	-0.49	0.02	0.61	0.24	0.14	0.61 *	0.07	0.18	0.01	0.00	-0.14	0.24 *	-0.24	0.00 ?
H	135	D	0.53	0.02	0.39	0.24	0.09	0.31	0.20	0.39 *	0.01	0.00	-0.21	0.07 ?	-0.19	0.24 *
H	136	C	-1.37	0.03	0.77	0.37	0.08	0.06	0.77 *	0.08	0.01	0.00	-0.20	-0.22	0.37 *	-0.15
H	137	C	-1.18	0.02	0.74	0.43	0.04	0.19	0.74 *	0.02	0.01	0.00	-0.30	-0.21	0.43 *	-0.26
H	138	C	-1.79	0.03	0.83	0.51	0.08	0.05	0.83 *	0.03	0.01	0.00	-0.31	-0.26	0.51 *	-0.23
H	139	B	0.24	0.02	0.45	0.45	0.10	0.45 *	0.30	0.14	0.01	0.00	-0.22	0.45 *	-0.15	-0.22

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
I	100	B	-0.24	0.02	0.55	0.25	0.30	0.55 *	0.06	0.08	0.01	0.00	-0.09	0.25 *	-0.22	-0.09
I	101	C	-0.36	0.02	0.58	0.26	0.07	0.31	0.58 *	0.04	0.00	0.00	-0.14	-0.11	0.26 *	-0.18
I	102	A	0.60	0.02	0.38	0.30	0.38 *	0.11	0.27	0.23	0.01	0.00	0.30 *	-0.20	-0.16	-0.01
I	103	B	-0.99	0.02	0.70	0.38	0.12	0.70 *	0.10	0.07	0.01	0.00	-0.26	0.38 *	-0.16	-0.12
I	104	B	-0.49	0.02	0.61	0.41	0.13	0.61 *	0.12	0.14	0.01	0.00	-0.21	0.41 *	-0.22	-0.15
I	105	C	-0.87	0.02	0.68	0.35	0.08	0.17	0.68 *	0.07	0.00	0.00	-0.27	-0.12	0.35 *	-0.15
I	106	C	-2.09	0.03	0.86	0.46	0.07	0.02	0.86 *	0.04	0.00	0.00	-0.26	-0.27	0.46 *	-0.23
I	107	C	-1.20	0.02	0.74	0.43	0.14	0.09	0.74 *	0.02	0.01	0.00	-0.17	-0.29	0.43 *	-0.23
I	108	B	-0.56	0.02	0.62	0.19	0.22	0.62 *	0.11	0.05	0.00	0.00	0.10 ?	0.19 *	-0.27	-0.20
I	109	C	-1.83	0.03	0.83	0.36	0.04	0.04	0.83 *	0.09	0.00	0.00	-0.21	-0.26	0.36 *	-0.14
I	110	B	1.05	0.02	0.29	-0.20	0.26	0.29 *	0.26	0.18	0.01	0.00	0.18 ?	-0.20 *	0.05 ?	-0.01
I	111	B	0.14	0.02	0.47	0.04	0.15	0.47 *	0.16	0.21	0.01	0.00	-0.19	0.04 *	-0.08	0.21 ?
I	112	C	1.21	0.02	0.26	0.23	0.31	0.16	0.26 *	0.26	0.01	0.00	-0.12	-0.17	0.23 *	0.06 ?
I	113	D	-0.82	0.02	0.67	0.54	0.10	0.08	0.15	0.67 *	0.01	0.00	-0.24	-0.28	-0.28	0.54 *
I	114	A	-0.59	0.02	0.63	0.37	0.63 *	0.18	0.10	0.09	0.00	0.00	0.37 *	-0.13	-0.23	-0.19
I	115	D	-1.37	0.03	0.77	0.38	0.09	0.06	0.07	0.77 *	0.01	0.00	-0.22	-0.18	-0.18	0.38 *
I	116	B	-1.14	0.02	0.73	0.29	0.03	0.73 *	0.05	0.19	0.00	0.00	-0.24	0.29 *	-0.31	-0.04
I	117	D	-1.56	0.03	0.80	0.49	0.10	0.06	0.04	0.80 *	0.01	0.00	-0.22	-0.28	-0.30	0.49 *
I	118	C	-0.78	0.02	0.67	0.32	0.03	0.25	0.67 *	0.05	0.00	0.00	-0.27	-0.11	0.32 *	-0.23
I	119	B	0.52	0.02	0.39	0.43	0.07	0.39 *	0.15	0.38	0.01	0.00	-0.25	0.43 *	-0.13	-0.19
I	120	C	-0.68	0.02	0.65	0.34	0.11	0.09	0.65 *	0.15	0.01	0.00	-0.20	-0.27	0.34 *	-0.05
I	121	C	-0.71	0.02	0.65	0.49	0.26	0.04	0.65 *	0.04	0.01	0.00	-0.31	-0.25	0.49 *	-0.20
I	122	A	-1.21	0.02	0.74	0.35	0.74 *	0.10	0.08	0.07	0.01	0.00	0.35 *	-0.23	-0.19	-0.10
I	123	C	-0.44	0.02	0.60	0.52	0.07	0.12	0.60 *	0.20	0.01	0.00	-0.28	-0.28	0.52 *	-0.20
I	124	A	-0.94	0.02	0.70	0.55	0.70 *	0.04	0.19	0.06	0.01	0.00	0.55 *	-0.31	-0.30	-0.26
I	125	B	-1.37	0.03	0.77	0.53	0.09	0.77 *	0.09	0.05	0.01	0.00	-0.26	0.53 *	-0.27	-0.30
I	126	C	-0.98	0.02	0.70	0.39	0.17	0.08	0.70 *	0.04	0.01	0.00	-0.09	-0.29	0.39 *	-0.29
I	127	C	-0.28	0.02	0.56	0.37	0.16	0.08	0.56 *	0.19	0.01	0.00	-0.20	-0.34	0.37 *	-0.02
I	128	D	-1.33	0.03	0.76	0.56	0.12	0.05	0.07	0.76 *	0.01	0.00	-0.27	-0.28	-0.34	0.56 *
I	129	A	-1.86	0.03	0.84	0.50	0.84 *	0.07	0.06	0.03	0.01	0.00	0.50 *	-0.25	-0.30	-0.23
I	130	B	-0.07	0.02	0.52	0.38	0.06	0.52 *	0.15	0.27	0.01	0.00	-0.21	0.38 *	-0.22	-0.13
I	131	B	0.34	0.02	0.43	0.35	0.28	0.43 *	0.08	0.19	0.01	0.00	-0.10	0.35 *	-0.24	-0.14
I	132	B	-0.01	0.02	0.51	0.35	0.20	0.51 *	0.20	0.09	0.01	0.00	-0.29	0.35 *	-0.01	-0.16
I	133	C	-1.29	0.03	0.76	0.50	0.12	0.07	0.76 *	0.05	0.01	0.00	-0.25	-0.28	0.50 *	-0.24
I	134	D	-1.08	0.02	0.72	0.46	0.07	0.11	0.09	0.72 *	0.01	0.00	-0.26	-0.22	-0.20	0.46 *
I	135	C	0.77	0.02	0.34	0.25	0.17	0.21	0.34 *	0.28	0.01	0.00	-0.10	-0.22	0.25 *	0.04 ?
I	136	C	1.40	0.03	0.23	0.10	0.51 ?	0.10	0.23 *	0.15	0.01	0.00	0.09 ?	-0.16	0.10 *	-0.08
I	137	B	-1.91	0.03	0.84	0.44	0.06	0.84 *	0.04	0.05	0.01	0.00	-0.26	0.44 *	-0.20	-0.22
I	138	B	-0.50	0.02	0.61	0.41	0.29	0.61 *	0.05	0.04	0.01	0.00	-0.22	0.41 *	-0.23	-0.20
I	139	B	-1.16	0.02	0.73	0.51	0.11	0.73 *	0.06	0.09	0.01	0.00	-0.20	0.51 *	-0.31	-0.27

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
J	100	C	-2.56	0.04	0.91	0.46	0.05	0.03	0.91	* 0.01	0.00	0.00	-0.29	-0.29	0.46	* -0.14
J	101	A	-0.72	0.02	0.65	0.37	0.65	* 0.14	0.09	0.10	0.01	0.00	0.37	* -0.17	-0.19	-0.19
J	102	D	-0.98	0.02	0.70	0.41	0.02	0.02	0.25	0.70	* 0.00	0.00	-0.25	-0.24	-0.26	0.41 *
J	103	B	0.68	0.02	0.36	0.26	0.03	0.36	* 0.57	? 0.03	0.01	0.00	-0.23	0.26	* -0.09	-0.22
J	104	A	-0.68	0.02	0.65	0.41	0.65	* 0.15	0.08	0.12	0.00	0.00	0.41	* -0.25	-0.15	-0.19
J	105	B	-1.32	0.03	0.76	0.47	0.08	0.76	* 0.12	0.04	0.00	0.00	-0.22	0.47	* -0.28	-0.23
J	106	A	-0.01	0.02	0.51	0.41	0.51	* 0.08	0.06	0.35	0.01	0.00	0.41	* -0.32	-0.27	-0.10
J	107	C	-1.49	0.03	0.79	0.29	0.07	0.10	0.79	* 0.03	0.00	0.00	-0.03	-0.18	0.29	* -0.29
J	108	D	-0.60	0.02	0.63	0.43	0.11	0.15	0.10	0.63	* 0.01	0.00	-0.23	-0.18	-0.21	0.43 *
J	109	D	-1.14	0.02	0.73	0.54	0.08	0.08	0.11	0.73	* 0.00	0.00	-0.24	-0.31	-0.28	0.54 *
J	110	A	-0.23	0.02	0.56	0.17	0.56	* 0.05	0.17	0.22	0.01	0.00	0.17	* -0.25	-0.01	-0.06
J	111	B	0.23	0.02	0.46	0.08	0.32	0.46	* 0.15	0.07	0.01	0.00	0.04	? 0.08	* -0.09	-0.08
J	112	C	-0.24	0.02	0.56	0.43	0.17	0.11	0.56	* 0.15	0.01	0.00	-0.15	-0.18	0.43	* -0.27
J	113	B	-0.77	0.02	0.66	0.42	0.07	0.66	* 0.12	0.14	0.01	0.00	-0.24	0.42	* -0.30	-0.10
J	114	A	-0.54	0.02	0.62	0.40	0.62	* 0.09	0.23	0.06	0.00	0.00	0.40	* -0.28	-0.12	-0.26
J	115	C	-0.75	0.02	0.66	0.41	0.03	0.24	0.66	* 0.07	0.00	0.00	-0.25	-0.24	0.41	* -0.19
J	116	B	-0.81	0.02	0.67	0.30	0.03	0.67	* 0.25	0.05	0.00	0.00	-0.28	0.30	* -0.10	-0.21
J	117	B	-1.99	0.03	0.85	0.48	0.05	0.85	* 0.05	0.05	0.00	0.00	-0.27	0.48	* -0.27	-0.22
J	118	C	-1.84	0.03	0.83	0.28	0.03	0.04	0.83	* 0.10	0.00	0.00	-0.16	-0.14	0.28	* -0.15
J	119	B	-0.05	0.02	0.52	0.32	0.10	0.52	* 0.18	0.20	0.01	0.00	-0.17	0.32	* -0.22	-0.04
J	120	C	-0.20	0.02	0.55	0.34	0.26	0.04	0.55	* 0.15	0.00	0.00	-0.13	-0.27	0.34	* -0.15
J	121	B	-0.74	0.02	0.66	0.44	0.08	0.66	* 0.12	0.14	0.01	0.00	-0.31	0.44	* -0.12	-0.22
J	122	D	-1.31	0.03	0.76	0.57	0.10	0.08	0.06	0.76	* 0.00	0.00	-0.26	-0.27	-0.37	0.57 *
J	123	D	-0.42	0.02	0.59	0.48	0.04	0.25	0.11	0.59	* 0.01	0.00	-0.22	-0.32	-0.14	0.48 *
J	124	C	-1.32	0.03	0.76	0.47	0.09	0.11	0.76	* 0.04	0.00	0.00	-0.15	-0.36	0.47	* -0.22
J	125	C	-1.28	0.03	0.75	0.42	0.09	0.05	0.75	* 0.10	0.00	0.00	-0.19	-0.30	0.42	* -0.19
J	126	A	0.07	0.02	0.49	0.09	0.49	* 0.04	0.39	0.07	0.01	0.00	0.09	* -0.28	0.19	? -0.29
J	127	C	-1.66	0.03	0.81	0.53	0.04	0.08	0.81	* 0.07	0.00	0.00	-0.35	-0.23	0.53	* -0.28
J	128	C	0.24	0.02	0.45	0.38	0.26	0.25	0.45	* 0.04	0.00	0.00	-0.10	-0.22	0.38	* -0.24
J	129	D	0.36	0.02	0.43	0.26	0.20	0.24	0.13	0.43	* 0.01	0.00	0.02	? -0.15	-0.20	0.26 *
J	130	B	-0.22	0.02	0.55	0.37	0.22	0.55	* 0.07	0.15	0.01	0.00	-0.09	0.37	* -0.30	-0.17
J	131	C	-0.62	0.02	0.63	0.45	0.14	0.13	0.63	* 0.09	0.01	0.00	-0.29	-0.20	0.45	* -0.15
J	132	A	-2.45	0.03	0.90	0.39	0.90	* 0.03	0.04	0.03	0.01	0.00	0.39	* -0.28	-0.22	-0.11
J	133	C	-1.98	0.03	0.85	0.39	0.09	0.03	0.85	* 0.03	0.00	0.00	-0.20	-0.24	0.39	* -0.20
J	134	A	-2.28	0.03	0.88	0.46	0.88	* 0.03	0.04	0.04	0.01	0.00	0.46	* -0.30	-0.23	-0.21
J	135	D	-1.14	0.02	0.73	0.36	0.08	0.12	0.07	0.73	* 0.01	0.00	-0.16	-0.13	-0.26	0.36 *
J	136	C	-1.00	0.02	0.71	0.15	0.21	0.06	0.71	* 0.03	0.00	0.00	0.14	? -0.35	0.15	* -0.22
J	137	D	-0.78	0.02	0.67	0.54	0.16	0.07	0.11	0.67	* 0.01	0.00	-0.21	-0.31	-0.31	0.54 *
J	138	C	-0.71	0.02	0.65	0.49	0.20	0.11	0.65	* 0.04	0.00	0.00	-0.30	-0.20	0.49	* -0.23
J	139	B	-1.54	0.03	0.79	0.54	0.10	0.79	* 0.05	0.06	0.01	0.00	-0.26	0.54	* -0.28	-0.32

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
K	100	C	-2.05	0.03	0.86	0.47	0.06	0.06	0.86 *	0.02	0.00	0.00	-0.32	-0.25	0.47 *	-0.17
K	101	C	-0.64	0.02	0.64	0.27	0.17	0.14	0.64 *	0.05	0.01	0.00	-0.09	-0.12	0.27 *	-0.21
K	102	A	-0.96	0.02	0.70	0.50	0.70 *	0.14	0.09	0.07	0.01	0.00	0.50 *	-0.27	-0.24	-0.24
K	103	C	-1.38	0.03	0.77	0.17	0.06	0.04	0.77 *	0.13	0.00	0.00	-0.14	-0.19	0.17 *	0.01 ?
K	104	D	-0.69	0.02	0.65	0.52	0.07	0.17	0.11	0.65 *	0.00	0.00	-0.26	-0.29	-0.21	0.52 *
K	105	B	-2.38	0.03	0.89	0.49	0.02	0.89 *	0.05	0.03	0.00	0.00	-0.27	0.49 *	-0.27	-0.27
K	106	B	-2.21	0.03	0.88	0.44	0.04	0.88 *	0.06	0.02	0.00	0.00	-0.27	0.44 *	-0.22	-0.24
K	107	C	-0.94	0.02	0.70	0.29	0.04	0.15	0.70 *	0.11	0.00	0.00	-0.17	-0.18	0.29 *	-0.10
K	108	A	-0.59	0.02	0.63	0.32	0.63 *	0.06	0.07	0.24	0.01	0.00	0.32 *	-0.29	-0.25	-0.04
K	109	B	-1.76	0.03	0.82	0.35	0.09	0.82 *	0.02	0.07	0.00	0.00	-0.24	0.35 *	-0.24	-0.12
K	110	D	0.16	0.02	0.47	0.30	0.23	0.07	0.23	0.47 *	0.01	0.00	0.03 ?	-0.22	-0.24	0.30 *
K	111	B	-0.38	0.02	0.58	0.42	0.09	0.58 *	0.13	0.20	0.01	0.00	-0.20	0.42 *	-0.17	-0.22
K	112	B	1.38	0.03	0.23	0.19	0.06	0.23 *	0.68 ?	0.02	0.00	0.00	-0.18	0.19 *	-0.01	-0.19
K	113	C	-1.39	0.03	0.77	0.48	0.11	0.05	0.77 *	0.06	0.00	0.00	-0.30	-0.26	0.48 *	-0.19
K	114	B	-0.73	0.02	0.66	0.32	0.16	0.66 *	0.16	0.02	0.00	0.00	-0.13	0.32 *	-0.18	-0.23
K	115	A	0.30	0.02	0.44	0.26	0.44 *	0.19	0.11	0.26	0.01	0.00	0.26 *	-0.12	-0.24	0.01 ?
K	116	C	1.10	0.02	0.28	0.29	0.11	0.53 ?	0.28 *	0.08	0.00	0.00	-0.27	0.01 ?	0.29 *	-0.15
K	117	C	1.13	0.02	0.27	0.25	0.40	0.21	0.27 *	0.12	0.00	0.00	0.00	-0.26	0.25 *	0.01 ?
K	118	B	-0.25	0.02	0.56	0.25	0.07	0.56 *	0.31	0.07	0.00	0.00	-0.23	0.25 *	-0.01	-0.23
K	119	B	-0.56	0.02	0.62	0.32	0.29	0.62 *	0.05	0.04	0.00	0.00	-0.16	0.32 *	-0.17	-0.21
K	120	B	2.34	0.03	0.11	-0.09	0.09	0.11 *	0.34	0.45	0.01	0.00	-0.19	-0.09 *	0.31 ?	-0.12
K	121	B	-1.25	0.02	0.75	0.49	0.18	0.75 *	0.04	0.03	0.00	0.00	-0.29	0.49 *	-0.30	-0.21
K	122	C	-1.23	0.02	0.75	0.49	0.10	0.10	0.75 *	0.05	0.01	0.00	-0.27	-0.22	0.49 *	-0.27
K	123	C	-0.85	0.02	0.68	0.32	0.15	0.04	0.68 *	0.12	0.01	0.00	-0.12	-0.25	0.32 *	-0.14
K	124	A	0.17	0.02	0.47	0.37	0.47 *	0.19	0.22	0.12	0.01	0.00	0.37 *	-0.15	-0.17	-0.15
K	125	B	-0.97	0.02	0.70	0.39	0.17	0.70 *	0.09	0.04	0.01	0.00	-0.17	0.39 *	-0.23	-0.22
K	126	D	-0.64	0.02	0.64	0.45	0.19	0.06	0.12	0.64 *	0.01	0.00	-0.15	-0.31	-0.24	0.45 *
K	127	A	-1.20	0.02	0.74	0.49	0.74 *	0.06	0.11	0.08	0.00	0.00	0.49 *	-0.28	-0.23	-0.23
K	128	A	-1.19	0.02	0.74	0.49	0.74 *	0.09	0.09	0.08	0.01	0.00	0.49 *	-0.24	-0.24	-0.26
K	129	C	-1.61	0.03	0.80	0.51	0.06	0.09	0.80 *	0.04	0.01	0.00	-0.29	-0.26	0.51 *	-0.27
K	130	D	-0.36	0.02	0.58	0.39	0.07	0.17	0.18	0.58 *	0.01	0.00	-0.23	-0.14	-0.20	0.39 *
K	131	C	-0.47	0.02	0.60	0.37	0.07	0.10	0.60 *	0.22	0.01	0.00	-0.25	-0.18	0.37 *	-0.12
K	132	B	0.40	0.02	0.42	0.33	0.32	0.42 *	0.12	0.14	0.01	0.00	-0.09	0.33 *	-0.22	-0.12
K	133	C	-1.32	0.03	0.76	0.42	0.08	0.10	0.76 *	0.05	0.01	0.00	-0.29	-0.22	0.42 *	-0.14
K	134	B	-0.78	0.02	0.67	0.40	0.15	0.67 *	0.11	0.06	0.01	0.00	-0.14	0.40 *	-0.24	-0.21
K	135	C	-0.36	0.02	0.58	0.21	0.26	0.05	0.58 *	0.10	0.01	0.00	0.04 ?	-0.32	0.21 *	-0.14
K	136	C	0.52	0.02	0.39	0.15	0.33	0.19	0.39 *	0.07	0.01	0.00	0.06 ?	-0.11	0.15 *	-0.20
K	137	B	-0.93	0.02	0.69	0.41	0.07	0.69 *	0.08	0.15	0.01	0.00	-0.28	0.41 *	-0.22	-0.15
K	138	C	-0.16	0.02	0.54	0.42	0.25	0.13	0.54 *	0.08	0.01	0.00	-0.09	-0.28	0.42 *	-0.25
K	139	A	-1.36	0.03	0.77	0.47	0.77 *	0.12	0.06	0.05	0.01	0.00	0.47 *	-0.24	-0.26	-0.21

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)				
L	100	D	-0.07	0.02	0.52	0.25	0.25	0.14	0.09	0.52	*	0.01	0.00	-0.10	-0.09	-0.15	0.25	*		
L	101	A	-0.11	0.02	0.53	0.22	0.53	*	0.05	0.21	0.21	0.01	0.00	0.22	*	-0.13	-0.10	-0.08		
L	102	D	-2.10	0.03	0.86	0.51	0.04	0.05	0.04	0.86	*	0.00	0.00	-0.30	-0.28	-0.24	0.51	*		
L	103	D	-0.50	0.02	0.61	0.33	0.05	0.30	0.04	0.61	*	0.01	0.00	-0.24	-0.09	-0.30	0.33	*		
L	104	C	-1.96	0.03	0.85	0.53	0.07	0.04	0.85	*	0.04	0.00	0.00	-0.28	-0.31	0.53	*	-0.27		
L	105	A	-1.76	0.03	0.82	0.44	0.82	*	0.06	0.05	0.07	0.00	0.00	0.44	*	-0.23	-0.25	-0.21		
L	106	A	-2.29	0.03	0.88	0.44	0.88	*	0.03	0.05	0.03	0.00	0.00	0.44	*	-0.24	-0.22	-0.26		
L	107	C	-2.77	0.04	0.92	0.48	0.02	0.04	0.92	*	0.01	0.00	0.00	-0.24	-0.31	0.48	*	-0.22		
L	108	D	-1.00	0.02	0.71	0.28	0.11	0.13	0.06	0.71	*	0.00	0.00	-0.17	-0.14	-0.09	0.28	*		
L	109	B	-0.86	0.02	0.68	0.47	0.12	0.68	*	0.09	0.11	0.00	0.00	-0.25	0.47	*	-0.20	-0.24		
L	110	C	-0.27	0.02	0.56	0.41	0.20	0.15	0.56	*	0.08	0.01	0.00	-0.26	-0.14	0.41	*	-0.16		
L	111	D	0.55	0.02	0.39	0.34	0.18	0.15	0.28	0.39	*	0.00	0.00	-0.25	-0.06	-0.09	0.34	*		
L	112	D	-2.37	0.03	0.89	0.48	0.04	0.03	0.04	0.89	*	0.00	0.00	-0.26	-0.26	-0.25	0.48	*		
L	113	B	-1.27	0.03	0.75	0.29	0.08	0.75	*	0.12	0.04	0.01	0.00	-0.18	0.29	*	-0.04	-0.27		
L	114	B	0.53	0.02	0.39	0.04	0.32	0.39	*	0.08	0.20	0.01	0.00	0.10	?	0.04	*	-0.28	0.05	?
L	115	B	-0.20	0.02	0.55	0.38	0.15	0.55	*	0.19	0.11	0.01	0.00	-0.05	0.38	*	-0.25	-0.21		
L	116	B	-2.52	0.04	0.90	0.36	0.02	0.90	*	0.04	0.03	0.00	0.00	-0.19	0.36	*	-0.23	-0.16		
L	117	C	-1.46	0.03	0.78	0.42	0.10	0.10	0.78	*	0.02	0.00	0.00	-0.25	-0.23	0.42	*	-0.17		
L	118	A	-0.63	0.02	0.64	0.54	0.64	*	0.08	0.17	0.11	0.00	0.00	0.54	*	-0.25	-0.30	-0.23		
L	119	C	-1.80	0.03	0.83	0.36	0.13	0.03	0.83	*	0.01	0.00	0.00	-0.20	-0.24	0.36	*	-0.19		
L	120	C	-1.54	0.03	0.79	0.44	0.12	0.04	0.79	*	0.04	0.01	0.00	-0.23	-0.31	0.44	*	-0.19		
L	121	C	-0.66	0.02	0.64	0.45	0.08	0.08	0.64	*	0.19	0.01	0.00	-0.28	-0.24	0.45	*	-0.16		
L	122	B	0.21	0.02	0.46	0.35	0.04	0.46	*	0.22	0.28	0.00	0.00	-0.29	0.35	*	-0.21	-0.05		
L	123	A	-1.32	0.03	0.76	0.38	0.76	*	0.07	0.09	0.07	0.01	0.00	0.38	*	-0.19	-0.16	-0.23		
L	124	B	-0.18	0.02	0.54	0.33	0.24	0.54	*	0.09	0.13	0.01	0.00	-0.08	0.33	*	-0.26	-0.15		
L	125	C	-1.06	0.02	0.72	0.47	0.10	0.12	0.72	*	0.05	0.01	0.00	-0.21	-0.29	0.47	*	-0.20		
L	126	B	0.06	0.02	0.49	0.37	0.04	0.49	*	0.03	0.43	0.01	0.00	-0.30	0.37	*	-0.25	-0.15		
L	127	D	-0.80	0.02	0.67	0.54	0.11	0.11	0.11	0.67	*	0.01	0.00	-0.29	-0.26	-0.23	0.54	*		
L	128	A	-1.40	0.03	0.77	0.54	0.77	*	0.04	0.12	0.06	0.01	0.00	0.54	*	-0.29	-0.34	-0.21		
L	129	B	-1.31	0.03	0.76	0.44	0.12	0.76	*	0.05	0.06	0.01	0.00	-0.15	0.44	*	-0.33	-0.23		
L	130	C	0.03	0.02	0.50	0.22	0.11	0.10	0.50	*	0.28	0.01	0.00	-0.22	-0.28	0.22	*	0.12	?	
L	131	D	0.30	0.02	0.44	0.30	0.33	0.12	0.10	0.44	*	0.01	0.00	0.05	?	-0.29	-0.22	0.30	*	
L	132	C	1.02	0.02	0.29	0.09	0.18	0.38	0.29	*	0.14	0.01	0.00	-0.15	0.05	?	0.09	*	-0.01	
L	133	D	1.03	0.02	0.29	0.27	0.41	0.12	0.17	0.29	*	0.01	0.00	0.15	?	-0.27	-0.26	0.27	*	
L	134	A	-1.35	0.03	0.77	0.49	0.77	*	0.09	0.07	0.06	0.01	0.00	0.49	*	-0.26	-0.31	-0.18		
L	135	B	0.22	0.02	0.46	0.17	0.13	0.46	*	0.38	0.03	0.01	0.00	-0.09	0.17	*	0.00	?	-0.26	
L	136	D	-0.65	0.02	0.64	0.52	0.13	0.09	0.14	0.64	*	0.01	0.00	-0.23	-0.27	-0.24	0.52	*		
L	137	A	-2.08	0.03	0.86	0.50	0.86	*	0.07	0.04	0.03	0.01	0.00	0.50	*	-0.29	-0.29	-0.23		
L	138	C	-1.22	0.02	0.74	0.44	0.03	0.06	0.74	*	0.16	0.01	0.00	-0.28	-0.28	0.44	*	-0.19		
L	139	B	-1.01	0.02	0.71	0.26	0.14	0.71	*	0.11	0.03	0.01	0.00	-0.01	0.26	*	-0.19	-0.24		

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)			
W	26	D	-0.37	0.02	0.58	0.16	0.10	0.03	0.29	0.58	*	0.00	0.00	-0.17	-0.23	0.03	? 0.16	*	
W	27	C	-0.13	0.02	0.53	0.34	0.08	0.25	0.53	*	0.12	0.01	0.00	-0.21	-0.29	0.34	* 0.04	?	
W	28	D	-1.76	0.03	0.82	0.26	0.08	0.07	0.03	0.82	*	0.00	0.00	-0.15	-0.12	-0.18	0.26	*	
W	29	A	0.33	0.02	0.43	0.34	0.43	*	0.27	0.15	0.14	0.00	0.00	0.34	*	-0.14	-0.27	-0.02	
W	30	D	-0.49	0.02	0.61	0.35	0.11	0.14	0.14	0.61	*	0.01	0.00	-0.21	-0.13	-0.17	0.35	*	
W	30	D	-0.47	0.02	0.60	0.32	0.12	0.14	0.13	0.60	*	0.01	0.00	-0.22	-0.13	-0.12	0.32	*	
W	31	C	-0.70	0.02	0.65	0.28	0.05	0.08	0.65	*	0.22	0.00	0.00	-0.27	-0.22	0.28	*	-0.04	
W	32	A	-0.03	0.02	0.51	0.16	0.51	*	0.27	0.18	0.03	0.00	0.00	0.16	*	0.07	? -0.21	-0.17	
W	33	B	-0.29	0.02	0.57	0.32	0.22	0.57	*	0.10	0.12	0.00	0.00	-0.03	0.32	*	-0.39	-0.08	
W	34	A	-0.29	0.02	0.57	0.29	0.57	*	0.33	0.07	0.03	0.00	0.00	0.29	*	-0.15	-0.18	-0.16	
W	35	A	-0.86	0.02	0.68	0.50	0.68	*	0.08	0.14	0.10	0.00	0.00	0.50	*	-0.26	-0.29	-0.21	
W	36	A	-2.37	0.03	0.89	0.45	0.89	*	0.04	0.05	0.02	0.00	0.00	0.45	*	-0.25	-0.29	-0.19	
W	37	B	0.50	0.02	0.40	0.03	0.20	0.40	*	0.31	0.09	0.00	0.00	-0.03	0.03	*	0.10	? -0.17	
W	38	C	-0.19	0.02	0.55	0.22	0.25	0.10	0.55	*	0.10	0.00	0.00	-0.09	-0.19	0.22	*	-0.04	
W	39	A	0.38	0.02	0.42	0.28	0.42	*	0.24	0.20	0.14	0.00	0.00	0.28	*	0.00	? -0.26	-0.11	
W	40	B	-1.47	0.03	0.78	0.36	0.02	0.78	*	0.13	0.07	0.00	0.00	-0.21	0.36	*	-0.18	-0.24	
W	41	D	-2.13	0.03	0.87	0.50	0.05	0.03	0.06	0.87	*	0.00	0.00	-0.32	-0.27	-0.25	0.50	*	
W	42	B	-1.81	0.03	0.83	0.38	0.04	0.83	*	0.09	0.04	0.00	0.00	-0.21	0.38	*	-0.25	-0.14	
W	43	B	-0.43	0.02	0.60	0.21	0.24	0.60	*	0.14	0.03	0.00	0.00	-0.09	0.21	*	-0.10	-0.18	
W	44	D	-1.30	0.03	0.76	0.33	0.09	0.08	0.08	0.76	*	0.00	0.00	-0.17	-0.21	-0.14	0.33	*	
W	45	C	-0.21	0.02	0.55	0.21	0.08	0.20	0.55	*	0.17	0.00	0.00	-0.22	-0.12	0.21	*	0.01	?
W	46	C	-0.06	0.02	0.52	0.31	0.21	0.24	0.52	*	0.03	0.00	0.00	-0.24	-0.06	0.31	*	-0.16	
W	47	D	-0.67	0.02	0.64	0.03	0.26	0.04	0.06	0.64	*	0.00	0.00	0.23	?	-0.27	-0.26	0.03	*
W	48	B	-0.86	0.02	0.68	0.22	0.19	0.68	*	0.11	0.02	0.00	0.00	-0.07	0.22	*	-0.13	-0.24	
W	49	A	-1.66	0.03	0.81	0.41	0.81	*	0.05	0.04	0.09	0.00	0.00	0.41	*	-0.25	-0.30	-0.14	
W	50	D	-0.25	0.02	0.56	0.26	0.06	0.14	0.24	0.56	*	0.00	0.00	-0.22	-0.14	-0.07	0.26	*	
W	51	B	0.23	0.02	0.46	0.30	0.21	0.46	*	0.27	0.07	0.00	0.00	-0.20	0.30	*	-0.04	-0.18	
W	52	C	-0.17	0.02	0.54	0.30	0.28	0.12	0.54	*	0.06	0.01	0.00	-0.12	-0.19	0.30	*	-0.16	
W	53	A	0.24	0.02	0.45	0.32	0.45	*	0.09	0.14	0.31	0.00	0.00	0.32	*	-0.22	-0.16	-0.09	
W	54	B	-0.39	0.02	0.59	0.24	0.13	0.59	*	0.12	0.16	0.00	0.00	-0.14	0.24	*	-0.16	-0.04	
W	55	C	-1.32	0.03	0.76	0.54	0.02	0.13	0.76	*	0.09	0.00	0.00	-0.28	-0.39	0.54	*	-0.20	
W	56	A	-2.33	0.03	0.89	0.51	0.89	*	0.04	0.04	0.04	0.00	0.00	0.51	*	-0.27	-0.30	-0.27	
W	57	C	-1.74	0.03	0.82	0.51	0.04	0.04	0.82	*	0.10	0.01	0.00	-0.27	-0.32	0.51	*	-0.24	
W	58	C	-1.06	0.02	0.72	0.31	0.22	0.04	0.72	*	0.03	0.00	0.00	-0.15	-0.21	0.31	*	-0.20	
W	59	A	-1.31	0.03	0.76	0.37	0.76	*	0.03	0.11	0.10	0.00	0.00	0.37	*	-0.27	-0.22	-0.14	
W	60	A	-1.07	0.02	0.72	0.45	0.72	*	0.04	0.11	0.14	0.00	0.00	0.45	*	-0.26	-0.18	-0.28	
W	61	D	-0.42	0.02	0.59	0.49	0.19	0.11	0.10	0.59	*	0.01	0.00	-0.23	-0.28	-0.19	0.49	*	
W	62	B	-0.34	0.02	0.58	0.25	0.26	0.58	*	0.08	0.09	0.00	0.00	-0.06	0.25	*	-0.24	-0.10	
W	63	C	0.03	0.02	0.50	0.37	0.36	0.08	0.50	*	0.06	0.00	0.00	-0.16	-0.18	0.37	*	-0.22	
W	64	B	-1.62	0.03	0.80	0.42	0.03	0.80	*	0.06	0.11	0.00	0.00	-0.26	0.42	*	-0.25	-0.20	

**Appendix J: 2002 PSSA Grade Eleven Item Analysis**  
**Multiple Choice Items for Reading**

Form	Sequence	Key	Logit	SEC	P-Value	PtBis Corr	%A	%B	%C	%D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)			
W	65	D	-1.94	0.03	0.85	0.43	0.09	0.04	0.03	0.85	*	0.00	0.00	-0.22	-0.25	-0.25	0.43	*	
W	189	B	-1.17	0.03	0.74	0.41	0.10	0.74	*	0.14	0.02	0.00	0.00	-0.28	0.41	*	-0.21	-0.16	
W	190	A	-2.02	0.03	0.85	0.29	0.85	*	0.10	0.02	0.03	0.00	0.00	0.29	*	-0.11	-0.28	-0.15	
W	191	A	-2.05	0.03	0.86	0.35	0.86	*	0.06	0.03	0.06	0.00	0.00	0.35	*	-0.22	-0.22	-0.16	
W	192	B	0.51	0.02	0.40	0.31	0.31	0.40	*	0.17	0.12	0.01	0.00	-0.12	0.31	*	-0.15	-0.13	
W	193	B	0.02	0.02	0.50	0.21	0.06	0.50	*	0.22	0.22	0.00	0.00	-0.26	0.21	*	-0.15	0.05	?
W	194	B	-1.02	0.02	0.71	0.50	0.08	0.71	*	0.12	0.09	0.00	0.00	-0.27	0.50	*	-0.28	-0.21	
W	195	A	-1.33	0.03	0.76	0.51	0.76	*	0.09	0.11	0.04	0.00	0.00	0.51	*	-0.29	-0.31	-0.21	
W	196	A	-1.47	0.03	0.78	0.50	0.78	*	0.08	0.07	0.06	0.00	0.00	0.50	*	-0.25	-0.27	-0.28	
W	197	C	-0.59	0.02	0.63	0.38	0.09	0.17	0.63	*	0.11	0.00	0.00	-0.11	-0.25	0.38	*	-0.17	
W	198	D	0.26	0.02	0.45	0.29	0.08	0.33	0.14	0.45	*	0.00	0.00	-0.07	-0.15	-0.16	0.29	*	
W	199	C	-0.69	0.02	0.65	0.45	0.11	0.16	0.65	*	0.08	0.00	0.00	-0.18	-0.25	0.45	*	-0.24	
W	200	A	-1.01	0.02	0.71	0.35	0.71	*	0.12	0.08	0.10	0.00	0.00	0.35	*	-0.21	-0.17	-0.15	
W	201	C	-2.28	0.03	0.88	0.52	0.04	0.06	0.88	*	0.02	0.00	0.00	-0.31	-0.32	0.52	*	-0.22	
W	202	B	0.53	0.02	0.39	0.06	0.24	0.39	*	0.20	0.17	0.01	0.00	-0.10	0.06	*	-0.13	0.17	?
W	203	B	0.19	0.02	0.46	0.34	0.33	0.46	*	0.06	0.14	0.00	0.00	-0.14	0.34	*	-0.30	-0.07	
W	204	B	-1.30	0.03	0.76	0.31	0.16	0.76	*	0.07	0.02	0.00	0.00	-0.17	0.31	*	-0.16	-0.22	
W	205	C	-1.64	0.03	0.81	0.38	0.03	0.08	0.81	*	0.08	0.00	0.00	-0.28	-0.24	0.38	*	-0.12	
W	206	A	-0.48	0.02	0.61	0.49	0.61	*	0.25	0.09	0.06	0.00	0.00	0.49	*	-0.24	-0.33	-0.17	
W	207	B	-2.01	0.03	0.85	0.47	0.05	0.85	*	0.06	0.04	0.00	0.00	-0.30	0.47	*	-0.29	-0.18	
W	208	A	-1.67	0.03	0.81	0.46	0.81	*	0.06	0.08	0.05	0.00	0.00	0.46	*	-0.25	-0.24	-0.25	
W	209	D	-1.81	0.03	0.83	0.45	0.09	0.04	0.04	0.83	*	0.00	0.00	-0.23	-0.31	-0.22	0.45	*	
W	210	B	-2.35	0.03	0.89	0.46	0.02	0.89	*	0.06	0.02	0.00	0.00	-0.28	0.46	*	-0.26	-0.24	
W	211	B	0.01	0.02	0.50	0.37	0.04	0.50	*	0.39	0.06	0.00	0.00	-0.18	0.37	*	-0.18	-0.24	
W	212	D	0.38	0.02	0.42	0.40	0.14	0.09	0.34	0.42	*	0.00	0.00	-0.24	-0.21	-0.11	0.40	*	
W	213	B	-0.45	0.02	0.60	0.40	0.28	0.60	*	0.08	0.04	0.00	0.00	-0.16	0.40	*	-0.28	-0.23	
W	214	D	-1.12	0.02	0.73	0.41	0.09	0.13	0.06	0.73	*	0.00	0.00	-0.17	-0.20	-0.27	0.41	*	
W	215	A	-1.97	0.03	0.85	0.47	0.85	*	0.07	0.05	0.04	0.00	0.00	0.47	*	-0.28	-0.25	-0.22	
W	216	D	-0.30	0.02	0.57	0.30	0.05	0.16	0.22	0.57	*	0.00	0.00	-0.18	-0.17	-0.10	0.30	*	
W	217	B	0.03	0.02	0.50	0.35	0.07	0.50	*	0.26	0.17	0.00	0.00	-0.28	0.35	*	-0.07	-0.19	
W	218	B	-0.06	0.02	0.52	0.31	0.10	0.52	*	0.32	0.06	0.00	0.00	-0.17	0.31	*	-0.11	-0.19	
W	219	C	-1.31	0.03	0.76	0.36	0.16	0.04	0.76	*	0.05	0.00	0.00	-0.13	-0.27	0.36	*	-0.26	
W	220	D	0.08	0.02	0.49	0.44	0.25	0.16	0.09	0.49	*	0.01	0.00	-0.22	-0.18	-0.16	0.44	*	
W	221	C	-0.78	0.02	0.66	0.53	0.10	0.16	0.66	*	0.07	0.00	0.00	-0.26	-0.33	0.53	*	-0.20	
W	222	C	-0.42	0.02	0.59	0.33	0.04	0.32	0.59	*	0.05	0.00	0.00	-0.28	-0.14	0.33	*	-0.19	
W	223	C	-0.74	0.02	0.66	0.49	0.18	0.06	0.66	*	0.10	0.01	0.00	-0.24	-0.31	0.49	*	-0.19	
W	224	D	0.00	0.02	0.50	0.40	0.21	0.19	0.10	0.50	*	0.00	0.00	-0.12	-0.22	-0.19	0.40	*	
W	225	A	-2.26	0.03	0.88	0.55	0.88	*	0.05	0.04	0.02	0.00	0.00	0.55	*	-0.31	-0.33	-0.26	
W	226	D	-1.74	0.03	0.82	0.51	0.07	0.04	0.06	0.82	*	0.00	0.00	-0.25	-0.28	-0.29	0.51	*	
W	227	A	-0.03	0.02	0.51	0.33	0.51	*	0.17	0.10	0.22	0.00	0.00	0.33	*	-0.26	-0.30	0.06	?
W	228	D	-1.66	0.03	0.81	0.51	0.05	0.04	0.10	0.81	*	0.01	0.00	-0.32	-0.28	-0.24	0.51	*	



**Appendix K: 2002 PSSA Grade Five Task Analysis**  
**Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
A	110	1	-3.44	1.94	0.64	0.03	0.22	0.54	0.20	0.01	-0.35	-0.47	0.19	0.37	0.12
A	110	2	-1.21												
A	110	3	1.45												
A	110	4	3.92												
B	110	1	-3.58	2.10	0.62	0.03	0.15	0.54	0.27	0.02	-0.33	-0.44	0.05	0.38	0.15
B	110	2	-1.64												
B	110	3	1.00												
B	110	4	3.52												
C	110	1	-3.66	2.08	0.58	0.03	0.15	0.58	0.23	0.02	-0.34	-0.41	0.07	0.34	0.14
C	110	2	-1.67												
C	110	3	1.20												
C	110	4	3.27												
D	110	1	-3.34	1.93	0.58	0.03	0.17	0.63	0.16	0.01	-0.36	-0.39	0.20	0.30	0.10
D	110	2	-1.55												
D	110	3	1.82												
D	110	4	4.00												
E	110	1	-3.68	1.95	0.60	0.03	0.23	0.52	0.21	0.01	-0.29	-0.45	0.14	0.37	0.13
E	110	2	-1.13												
E	110	3	1.35												
E	110	4	3.78												
F	110	1	-4.10	1.88	0.51	0.02	0.26	0.56	0.15	0.01	-0.23	-0.39	0.16	0.30	0.11
F	110	2	-0.99												
F	110	3	1.69												
F	110	4	3.59												
G	110	1	-3.93	2.01	0.61	0.02	0.19	0.56	0.22	0.01	-0.27	-0.49	0.14	0.36	0.12
G	110	2	-1.36												
G	110	3	1.29												
G	110	4	3.58												
H	110	1	-3.75	2.10	0.59	0.02	0.15	0.55	0.27	0.01	-0.32	-0.43	0.05	0.36	0.13
H	110	2	-1.70												
H	110	3	1.00												
H	110	4	3.86												
I	110	1	-3.73	2.07	0.56	0.02	0.15	0.59	0.23	0.02	-0.31	-0.40	0.07	0.33	0.13
I	110	2	-1.70												
I	110	3	1.25												
I	110	4	3.44												

**Appendix K: 2002 PSSA Grade Five Task Analysis**  
**Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
J	110	1	-3.38	1.96	0.57	0.03	0.17	0.62	0.17	0.01	-0.37	-0.38	0.17	0.30	0.10
J	110	2	-1.55												
J	110	3	1.67												
J	110	4	3.78												
K	110	1	-3.63	1.95	0.58	0.03	0.23	0.53	0.20	0.01	-0.31	-0.41	0.12	0.36	0.14
K	110	2	-1.08												
K	110	3	1.31												
K	110	4	3.59												
L	110	1	-4.13	1.89	0.50	0.02	0.26	0.55	0.16	0.01	-0.22	-0.39	0.15	0.31	0.11
L	110	2	-1.01												
L	110	3	1.63												
L	110	4	3.78												
W	52	1	-3.99	2.05	0.57	0.02	0.20	0.52	0.24	0.03	-0.24	-0.44	0.06	0.36	0.16
W	52	2	-1.29												
W	52	3	1.09												
W	52	4	3.06												
W	185	1	-4.13	2.14	0.56	0.02	0.12	0.60	0.25	0.02	-0.27	-0.44	0.02	0.33	0.14
W	185	2	-1.97												
W	185	3	1.13												
W	185	4	3.21												

**Appendix L: 2002 PSSA Grade Eight Task Analysis**  
**Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
A	130	1	-2.812	1.884	0.623	0.053	0.225	0.521	0.185	0.016	-0.4	-0.37	0.19	0.348	0.152
A	130	2	-0.998												
A	130	3	1.433												
A	130	4	3.354												
B	130	1	-2.894	1.975	0.65	0.05	0.188	0.508	0.239	0.013	-0.39	-0.39	0.09	0.424	0.137
B	130	2	-1.192												
B	130	3	1.074												
B	130	4	3.713												
C	130	1	-2.864	2.053	0.645	0.051	0.164	0.495	0.255	0.034	-0.42	-0.37	0.06	0.383	0.196
C	130	2	-1.345												
C	130	3	0.956												
C	130	4	2.832												
D	130	1	-2.828	2.146	0.637	0.049	0.125	0.491	0.293	0.04	-0.38	-0.37	-0.02	0.386	0.22
D	130	2	-1.611												
D	130	3	0.743												
D	130	4	2.782												
E	130	1	-2.972	1.983	0.619	0.046	0.193	0.509	0.234	0.017	-0.36	-0.39	0.1	0.389	0.145
E	130	2	-1.191												
E	130	3	1.118												
E	130	4	3.461												
F	130	1	-2.649	2.17	0.634	0.048	0.088	0.534	0.301	0.028	-0.42	-0.35	-0.03	0.383	0.176
F	130	2	-1.952												
F	130	3	0.79												
F	130	4	3.133												
G	130	1	-2.848	1.915	0.635	0.052	0.218	0.508	0.203	0.018	-0.41	-0.38	0.17	0.36	0.15
G	130	2	-1.042												
G	130	3	1.321												
G	130	4	3.343												
H	130	1	-2.873	1.978	0.659	0.053	0.189	0.495	0.249	0.013	-0.41	-0.39	0.1	0.418	0.14
H	130	2	-1.183												
H	130	3	1.021												
H	130	4	3.855												
I	130	1	-2.581	1.991	0.639	0.06	0.181	0.495	0.235	0.03	-0.42	-0.37	0.11	0.372	0.178
I	130	2	-1.169												
I	130	3	1.059												
I	130	4	2.826												

**Appendix L: 2002 PSSA Grade Eight Task Analysis**  
**Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
J	130	1	-3.005	2.196	0.643	0.043	0.12	0.473	0.32	0.043	-0.38	-0.39	-0.05	0.402	0.21
J	130	2	-1.65												
J	130	3	0.595												
J	130	4	2.718												
K	130	1	-2.92	1.981	0.615	0.047	0.192	0.508	0.234	0.018	-0.38	-0.38	0.1	0.374	0.152
K	130	2	-1.182												
K	130	3	1.115												
K	130	4	3.424												
L	130	1	-2.588	2.138	0.628	0.05	0.097	0.538	0.289	0.025	-0.41	-0.34	-0.02	0.383	0.179
L	130	2	-1.863												
L	130	3	0.845												
L	130	4	3.243												
W	62	1	-2.611	1.958	0.656	0.066	0.225	0.426	0.252	0.031	-0.42	-0.38	0.1	0.403	0.201
W	62	2	-0.827												
W	62	3	0.872												
W	62	4	2.886												
W	215	1	-2.3	1.718	0.665	0.088	0.302	0.428	0.167	0.015	-0.48	-0.32	0.27	0.362	0.155
W	215	2	-0.39												
W	215	3	1.412												
W	215	4	3.314												

**Appendix M: 2002 PSSA Grade Eleven Task Analysis**  
**Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
B	140	1	-2.472	0.013	2.069	0.66	0.183	0.414	0.28	0.054	-0.401	-0.37	0.031	0.391	0.251
B	140	2	-1.031	0.015											
B	140	3	0.658	0.021											
B	140	4	2.308	0.046											
C	140	1	-2.783	0.013	2.077	0.629	0.202	0.403	0.285	0.054	-0.352	-0.39	0.029	0.385	0.233
C	140	2	-0.922	0.015											
C	140	3	0.62	0.021											
C	140	4	2.296	0.047											
D	140	1	-2.34	0.013	2.107	0.678	0.178	0.383	0.299	0.066	-0.416	-0.4	0.033	0.394	0.266
D	140	2	-1.018	0.015											
D	140	3	0.506	0.021											
D	140	4	2.167	0.043											
E	140	1	-2.188	0.013	2.212	0.675	0.123	0.406	0.341	0.063	-0.395	-0.39	-0.07	0.416	0.26
E	140	2	-1.4	0.014											
E	140	3	0.353	0.02											
E	140	4	2.246	0.043											
F	140	1	-2.001	0.013	2.181	0.68	0.123	0.409	0.337	0.057	-0.398	-0.38	-0.06	0.424	0.262
F	140	2	-1.413	0.014											
F	140	3	0.39	0.02											
F	140	4	2.387	0.045											
G	140	1	-2.479	0.013	2.149	0.697	0.176	0.378	0.295	0.082	-0.375	-0.43	-0.03	0.415	0.306
G	140	2	-1.01	0.014											
G	140	3	0.469	0.02											
G	140	4	1.91	0.039											
H	140	1	-2.376	0.013	2.052	0.655	0.186	0.42	0.266	0.057	-0.419	-0.35	0.046	0.379	0.252
H	140	2	-1	0.015											
H	140	3	0.716	0.021											
H	140	4	2.204	0.045											
I	140	1	-2.816	0.013	2.109	0.65	0.186	0.411	0.292	0.056	-0.381	-0.39	0.014	0.389	0.245
I	140	2	-1.062	0.015											
I	140	3	0.596	0.021											
I	140	4	2.277	0.045											
J	140	1	-2.326	0.013	2.093	0.652	0.179	0.386	0.3	0.06	-0.4	-0.38	0.031	0.391	0.243
J	140	2	-0.971	0.015											
J	140	3	0.511	0.021											
J	140	4	2.233	0.044											

**Appendix M: 2002 PSSA Grade Eleven Task Analysis**  
**Open Ended Tasks for Reading**

Form	Sequence	Step	Logit	Task Mean	Correlation	% Zero	% One	% Two	% Three	% Four	R(0)	R(1)	R(2)	R(3)	R(4)
K	140	1	-2.262	0.013	2.23	0.693	0.128	0.388	0.343	0.074	-0.402	-0.4	-0.07	0.407	0.295
K	140	2	-1.365	0.014											
K	140	3	0.3	0.019											
K	140	4	2.117	0.04											
L	140	1	-2.123	0.013	2.203	0.685	0.123	0.404	0.337	0.065	-0.424	-0.36	-0.07	0.417	0.267
L	140	2	-1.422	0.014											
L	140	3	0.374	0.02											
L	140	4	2.234	0.042											
W	66	1	-2.763	0.013	2.308	0.639	0.089	0.424	0.39	0.051	-0.338	-0.41	-0.14	0.429	0.213
W	66	2	-1.867	0.014											
W	66	3	0.224	0.02											
W	66	4	2.629	0.047											
W	229	1	-1.985	0.013	2.192	0.674	0.104	0.429	0.343	0.05	-0.461	-0.34	-0.05	0.418	0.229
W	229	2	-1.566	0.015											
W	229	3	0.408	0.02											
W	229	4	2.543	0.048											

## Appendix N: 2002 PSSA Grade Five Across Year Linking

Grade 5 Reading							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	P 2001	P 2002	Logit* 2002
D	172	-1.42	-2.38	-0.06	0.86	0.89	-1.48
D	173				0.88	0.92	
D	174	-0.98	-2.00	-0.12	0.81	0.85	-1.11
D	175	-1.06	-2.16	-0.20	0.82	0.87	-1.27
D	176	0.32	-0.43	0.15	0.59	0.59	0.46
D	177	-0.26	-1.22	-0.06	0.70	0.74	-0.32
D	178	0.85	-0.05	0.00	0.48	0.50	0.85
D	179	-0.14	-0.87	0.16	0.67	0.68	0.02
D	180	-0.92	-1.88	-0.06	0.80	0.83	-0.98
D	181	1.03	0.34	0.20	0.44	0.40	1.23
D	182				0.90	0.94	
D	183	-1.12	-2.03	-0.01	0.83	0.85	-1.13
D	184	-0.21	-1.09	0.01	0.69	0.72	-0.20
H	173	-0.53	-1.31	0.11	0.74	0.76	-0.42
H	174	-1.20	-2.08	0.02	0.84	0.86	-1.18
H	175	-1.00	-1.80	0.09	0.81	0.83	-0.91
H	176	-0.03	-0.86	0.07	0.65	0.68	0.04
H	177	0.83	0.06	0.13	0.47	0.49	0.95
H	178	-1.47	-2.48	-0.11	0.87	0.89	-1.58
H	179	-1.23	-2.06	0.06	0.84	0.85	-1.17
H	180				0.64	0.63	
H	181	0.05	-0.63	0.22	0.63	0.63	0.27
H	182	-0.87	-1.56	0.20	0.79	0.79	-0.67
H	183	-0.36	-1.08	0.17	0.71	0.71	-0.19
H	184	-1.30	-2.02	0.18	0.85	0.85	-1.13
W	102	0.04	-0.82	0.04	0.64	0.67	0.07
W	103	-0.40	-1.23	0.06	0.72	0.74	-0.34
W	104	-0.59	-1.30	0.18	0.75	0.76	-0.41
W	105	0.04	-0.74	0.11	0.63	0.66	0.15
W	106	-0.76	-1.61	0.04	0.77	0.80	-0.72
W	107	-0.13	-0.88	0.13	0.66	0.69	0.01
W	108	-0.51	-1.36	0.03	0.73	0.76	-0.47
W	109	-0.89	-1.73	0.05	0.78	0.81	-0.84
W	110	-0.02	-0.76	0.15	0.65	0.66	0.13
W	111	1.31	0.63	0.21	0.38	0.37	1.52
W	112	1.15	0.39	0.13	0.41	0.43	1.28
W	113	0.06	-0.87	-0.04	0.63	0.67	0.02
W	114	0.13	-0.75	0.01	0.62	0.66	0.14
W	115	-0.57	-1.39	0.07	0.74	0.77	-0.50
W	116	-1.30	-2.24	-0.05	0.84	0.88	-1.35
W	117				0.55	0.54	
W	118	-0.65	-1.40	0.15	0.75	0.77	-0.51
W	119	-0.13	-1.11	-0.09	0.66	0.72	-0.22
W	120	-0.47	-1.18	0.18	0.72	0.74	-0.29
W	121	1.64	0.60	-0.15	0.31	0.38	1.49
W	122	0.50	-0.53	-0.14	0.54	0.61	0.36
W	123	-0.99	-1.76	0.12	0.80	0.82	-0.87
W	124				0.67	0.67	
W	125	-0.61	-1.40	0.10	0.75	0.77	-0.50
W	126	0.86	0.03	0.06	0.47	0.51	0.92

Grade 5 Math							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	P 2001	P 2002	Logit* 2002
A	128	-3.31	-3.39	0.09	0.95	0.95	-3.22
A	129	-2.42	-2.58	0.01	0.89	0.89	-2.41
A	130	-0.53	-0.79	-0.09	0.60	0.65	-0.62
A	131	-0.91	-1.07	0.00	0.68	0.70	-0.91
A	132	-0.57	-0.65	0.09	0.61	0.62	-0.48
E	132	-1.51	-1.65	0.03	0.78	0.79	-1.48
E	134	-2.96	-3.24	-0.11	0.94	0.94	-3.07
E	136	-1.33	-1.61	-0.12	0.76	0.79	-1.45
E	137	-1.26	-1.44	-0.01	0.74	0.76	-1.27
D	129	-0.95	-1.06	0.06	0.69	0.70	-0.89
F	130	-1.96	-2.08	0.05	0.85	0.84	-1.91
F	131	-0.71	-0.88	0.00	0.64	0.67	-0.71
F	132	-1.26	-1.47	-0.05	0.74	0.76	-1.31
F	134	-1.66	-1.88	-0.06	0.81	0.82	-1.72
F	135	-1.09	-1.40	-0.15	0.71	0.75	-1.24
B	128				0.95	0.96	
B	129	-0.43	-0.51	0.09	0.58	0.60	-0.34
B	130	-0.85	-0.90	0.12	0.67	0.67	-0.73
B	131	-1.20	-1.42	-0.06	0.73	0.76	-1.26
B	132	-2.74	-2.94	-0.03	0.92	0.92	-2.77
C	131	-1.18	-1.45	-0.10	0.73	0.76	-1.28
C	132	-1.05	-1.28	-0.06	0.71	0.73	-1.11
C	133				0.77	0.74	
C	134	-1.15	-1.43	-0.11	0.73	0.76	-1.26
C	135	-1.16	-1.31	0.01	0.73	0.74	-1.15
E	131				0.75	0.74	
E	140	-2.09	-2.16	0.09	0.86	0.86	-2.00
E	141	-1.75	-2.02	-0.10	0.82	0.84	-1.85
E	142	-0.54	-0.67	0.04	0.61	0.63	-0.50
F	128	-1.09	-1.34	-0.08	0.71	0.75	-1.17
G	128	-2.30	-2.62	-0.15	0.88	0.90	-2.45
H	132	-1.09	-1.12	0.14	0.71	0.71	-0.95
H	133	-0.87	-0.95	0.09	0.67	0.68	-0.78
H	134	-2.09	-2.34	-0.08	0.86	0.87	-2.17
H	138	-0.55	-0.62	0.09	0.61	0.62	-0.46

## Appendix O: 2002 PSSA Grade Eight Across Year Linking

Grade 8 Reading							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	P 2001	P 2002	Logit* 2002
H	209				0.92	-3.43	
J	187				0.94	-3.00	
H	199				0.85	-2.67	
J	193	-2.37	-2.21	0.27	0.87	-2.21	-2.10
H	214	-1.77	-2.10	-0.21	0.81	-2.10	-1.98
J	195				0.87	-2.02	
H	201				0.77	-1.72	
J	182	-1.73	-1.71	0.13	0.80	-1.71	-1.60
J	181	-1.50	-1.55	0.06	0.77	-1.55	-1.44
H	202	-1.34	-1.43	0.03	0.75	-1.43	-1.31
H	203	-1.11	-1.39	-0.16	0.72	-1.39	-1.27
H	197	-1.08	-1.31	-0.11	0.71	-1.31	-1.19
H	211	-1.07	-1.26	-0.07	0.71	-1.26	-1.14
H	198	-0.79	-1.00	-0.10	0.66	-1.00	-0.89
H	210	-0.68	-0.92	-0.13	0.65	-0.92	-0.81
J	183	-0.75	-0.81	0.06	0.66	-0.81	-0.69
H	204	-0.68	-0.80	0.00	0.65	-0.80	-0.68
J	192	-0.78	-0.77	0.13	0.66	-0.77	-0.65
J	189	-0.85	-0.73	0.23	0.67	-0.73	-0.62
J	186	-0.77	-0.68	0.20	0.66	-0.68	-0.57
J	184	-0.54	-0.56	0.09	0.62	-0.56	-0.45
J	194	-0.39	-0.45	0.05	0.59	-0.45	-0.34
H	208	-0.06	-0.39	-0.22	0.53	-0.39	-0.28
J	180	-0.06	-0.22	-0.04	0.53	-0.22	-0.10
H	206				0.42	0.06	
H	205				0.42	0.08	
J	188	-0.09	0.09	0.29	0.53	0.09	0.20
J	196	0.41	0.31		0.44	0.31	
H	207	0.53	0.38	-0.03	0.42	0.38	0.50
J	191				0.30	0.83	
W	117	-2.45	-2.46	0.10	0.88	-2.46	-2.35
W	114	-2.25	-2.21	0.16	0.87	-2.21	-2.10
W	136	-2.02	-2.14	-0.01	0.84	-2.14	-2.03
W	124	-1.92	-1.99	0.04	0.83	-1.99	-1.88
W	115	-1.75	-1.87		0.81	-1.87	
C	195	-1.57	-1.67	0.02	0.79	-1.67	-1.55
D	194	-1.40	-1.55	-0.03	0.76	-1.55	-1.43
W	130				0.71	-1.49	
D	180	-1.36	-1.40	0.08	0.76	-1.40	-1.28
W	120	-1.37	-1.34	0.14	0.76	-1.34	-1.23
W	116	-1.27	-1.33	0.04	0.74	-1.33	-1.22
W	127	-1.38	-1.31	0.19	0.76	-1.31	-1.19
W	133	-1.21	-1.24	0.08	0.73	-1.24	-1.12
W	128	-1.11	-1.19	0.04	0.71	-1.19	-1.08
E	204	-1.01	-1.13	-0.01	0.70	-1.13	-1.02
W	141	-0.95	-1.12	-0.05	0.70	-1.12	-1.00
W	146	-1.01	-1.07	0.06	0.70	-1.07	-0.95
W	121	-1.02	-1.05	0.09	0.71	-1.05	-0.93
C	205	-0.92	-0.92	0.11	0.69	-0.92	-0.81

Grade 8 Math							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	P 2001	P 2002	Logit* 2002
C	148				0.53	0.60	
C	149	-0.79	-0.76	0.13	0.66	0.65	-0.66
C	150	0.18	0.19	0.11	0.45	0.46	0.29
C	151	-0.27	-0.34	0.03	0.55	0.57	-0.24
C	152	-0.38	-0.51	-0.02	0.57	0.60	-0.40
D	148				0.43	0.42	
D	149	-1.48	-1.74	-0.15	0.78	0.80	-1.63
D	150	-0.99	-1.11	-0.02	0.70	0.71	-1.01
D	151	-0.89	-1.04	-0.05	0.68	0.70	-0.94
D	152	-0.07	-0.19	-0.02	0.50	0.54	-0.09
E	148				0.60	0.57	
E	149	-0.53	-0.65	-0.02	0.60	0.63	-0.55
E	150	-1.95	-2.21	-0.15	0.85	0.86	-2.10
E	151	-0.94	-1.10	-0.06	0.69	0.71	-1.00
E	152	-0.35	-0.39	0.06	0.57	0.58	-0.29
F	148	-0.33	-0.49	-0.06	0.56	0.60	-0.39
F	149	-0.40	-0.47	0.03	0.58	0.59	-0.37
F	150	-0.21	-0.25	0.06	0.53	0.55	-0.15
F	151				0.59	0.57	
F	152				0.87	0.89	
G	148	-0.43	-0.60	-0.06	0.58	0.62	-0.49
G	149	-0.56	-0.73	-0.07	0.61	0.64	-0.63
G	150	-0.44	-0.59	-0.05	0.58	0.61	-0.49
G	151	-0.26	-0.33	0.04	0.54	0.56	-0.22
G	152	-1.39	-1.53	-0.03	0.77	0.77	-1.42
H	148	-0.67	-0.67	0.11	0.63	0.63	-0.56
H	149				0.82	0.84	
H	150				0.71	0.76	
H	151				0.37	0.34	
H	158				0.67	0.73	



## Appendix O: 2002 PSSA Grade Eight Across Year Linking

Grade 8 Reading							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	P 2001	P 2002	Logit* 2002
W	119	-0.91	-0.90	0.12	0.68	-0.90	-0.79
G	179	-0.96	-0.87	0.20	0.70	-0.87	-0.76
W	131	-0.83	-0.85	0.09	0.67	-0.85	-0.74
W	112	-0.79	-0.80	0.10	0.67	-0.80	-0.69
W	111	-0.63	-0.70	0.04	0.64	-0.70	-0.59
W	144	-0.62	-0.66	0.07	0.63	-0.66	-0.55
W	138	-0.38	-0.55	-0.05	0.59	-0.55	-0.43
W	132	-0.36	-0.40	0.07	0.59	-0.40	-0.29
W	134	-0.21	-0.37	-0.05	0.56	-0.37	-0.26
W	129	-0.16	-0.24	0.04	0.55	-0.24	-0.13
W	135	-0.10	-0.22	-0.01	0.53	-0.22	-0.11
W	145	-0.14	-0.15	0.11	0.54	-0.15	-0.03
W	140	-0.06	-0.10	0.07	0.52	-0.10	0.01
W	118				0.42	0.04	
W	122	0.25	0.11	-0.03	0.47	0.11	0.22
W	113	0.17	0.11	0.05	0.48	0.11	0.22
W	126	0.54	0.25	-0.18	0.41	0.25	0.36
W	125	0.42	0.27	-0.04	0.44	0.27	0.38
W	137	0.55	0.36	-0.07	0.41	0.36	0.48
W	143	0.56	0.39	-0.06	0.41	0.39	0.50
W	123	0.71	0.53	-0.06	0.37	0.53	0.65
W	139	0.72	0.58	-0.02	0.39	0.58	0.70
W	142	1.10	0.98	0.00	0.32	0.98	1.10

**Appendix P: 2002 PSSA Grade Eleven Across Year Linking**

Grade 11 Reading							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	Pvalue 2001	Pvalue 2002	2002 Logit*
W	26	0.00	-0.15	0.17	0.50	0.56	-0.17
W	27	0.06	0.10	-0.02	0.50	0.51	0.08
W	29	0.70	0.55	0.17	0.38	0.42	0.53
W	31	-0.67	-0.46	-0.18	0.64	0.62	-0.48
W	32	0.22	0.18	0.05	0.47	0.49	0.16
W	33	-0.31	-0.06	-0.24	0.57	0.54	-0.08
W	34	-0.14	-0.06	-0.06	0.54	0.54	-0.08
W	35	-0.69	-0.61	-0.06	0.64	0.65	-0.63
W	36	-2.10	-2.10	0.02	0.84	0.86	-2.12
W	37	0.63	0.71	-0.06	0.39	0.38	0.69
W	38	-0.13	0.04	-0.15	0.54	0.52	0.02
W	40	-1.27	-1.23	-0.02	0.74	0.75	-1.24
W	41	-1.81	-1.86	0.08	0.81	0.83	-1.88
W	42	-1.68	-1.56	-0.09	0.79	0.80	-1.58
W	43	-0.35	-0.21	-0.12	0.58	0.57	-0.23
W	44	-0.98	-1.05	0.09	0.69	0.73	-1.07
W	45	0.05	0.01	0.06	0.50	0.53	-0.01
W	46	0.12	0.16	-0.02	0.49	0.50	0.14
W	48	-0.46	-0.62	0.19	0.60	0.65	-0.64
W	49	-1.30	-1.41	0.13	0.74	0.78	-1.43
W	50	-0.10	-0.02	-0.06	0.52	0.54	-0.04
W	51	0.40	0.46	-0.04	0.44	0.44	0.44
W	52	-0.03	0.06	-0.07	0.52	0.52	0.04
W	53	0.62	0.46	0.18	0.38	0.44	0.44
W	54	-0.24	-0.16	-0.06	0.56	0.56	-0.18
W	55	-0.92	-1.06	0.16	0.68	0.73	-1.08
W	56	-1.98	-2.05	0.09	0.83	0.85	-2.07
W	57	-1.67	-1.48	-0.17	0.79	0.79	-1.50
W	58	-0.95	-0.82	-0.11	0.69	0.69	-0.84
W	59	-1.03	-1.07	0.06	0.70	0.73	-1.09
W	60	-0.89	-0.82	-0.05	0.68	0.69	-0.84
W	61	-0.16	-0.19	0.04	0.54	0.57	-0.20
W	62	-0.25	-0.11	-0.12	0.56	0.55	-0.13
W	63	0.13	0.26	-0.11	0.49	0.48	0.24
W	64	-1.41	-1.37	-0.02	0.75	0.77	-1.39
W	65	-1.82	-1.67	-0.13	0.81	0.81	-1.69
W	189	-0.94	-0.90	-0.02	0.69	0.70	-0.92
W	190	-1.53	-1.71	0.20	0.78	0.82	-1.73
W	191	-1.63	-1.74	0.13	0.79	0.82	-1.76
W	192	0.77	0.74	0.05	0.37	0.38	0.72
W	193	0.05	0.27	-0.20	0.51	0.48	0.25
W	194	-0.95	-0.75	-0.18	0.69	0.68	-0.77
W	195	-1.21	-1.05	-0.14	0.73	0.73	-1.07
W	198	0.65	0.51	0.16	0.39	0.43	0.49
W	199	-0.70	-0.44	-0.24	0.65	0.62	-0.46
W	200	-0.72	-0.74	0.04	0.65	0.67	-0.76
W	202	0.75	0.77	0.00	0.37	0.37	0.75
W	204	-0.89	-1.03	0.16	0.68	0.72	-1.05
W	205	-1.25	-1.34	0.11	0.74	0.77	-1.36

Grade 11 Mathematics							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	Pvalue 2001	Pvalue 2002	Logit 2002*
A	68	-1.12	-0.87	0.07	0.77	0.75	-1.19
A	69	-0.65	-0.40	0.07	0.66	0.68	-0.72
A	71	0.28	0.75	-0.15	0.40	0.46	0.43
A	74	-0.45	-0.03	-0.10	0.61	0.61	-0.35
C	68	-1.89	-1.77	0.20	0.87	0.86	-2.09
C	69	-0.01	0.54	-0.23	0.50	0.50	0.22
C	70	0.18	0.75	-0.24	0.45	0.46	0.42
C	71	0.59	1.04	-0.13	0.35	0.40	0.72
C	72	-1.00	-0.54	-0.14	0.73	0.70	-0.86
C	73	-0.87	-0.53	-0.02	0.70	0.70	-0.85
E	68	-1.12	-0.93	0.13	0.76	0.75	-1.25
E	69	-0.72	-0.39	-0.01	0.67	0.67	-0.71
E	70	-0.32	0.14	-0.13	0.55	0.57	-0.19
E	71	-0.09	0.43	-0.19	0.49	0.52	0.10
E	72	-0.68	-0.22	-0.13	0.65	0.64	-0.55
E	73	-0.90	-0.36	-0.22	0.71	0.66	-0.68
I	67	-0.93	-0.72	0.11	0.73	0.71	-1.04
I	68	-1.11	-1.04	0.26	0.77	0.76	-1.37
I	70	-0.44	-0.21	0.09	0.61	0.63	-0.53
I	71	-0.85	-0.57	0.04	0.71	0.69	-0.89
J	67	-0.41	-0.30	0.22	0.60	0.64	-0.63
J	68	-1.00	-0.81	0.13	0.74	0.72	-1.13
J	69	-0.53	-0.32	0.11	0.63	0.64	-0.64
J	70	-0.33	-0.15	0.14	0.58	0.61	-0.47
J	71	-0.39	0.14	-0.20	0.59	0.57	-0.19
J	73	-0.21	0.08	0.04	0.55	0.58	-0.25
L	67	-1.17	-1.09	0.24	0.77	0.76	-1.41
L	69	-0.75	-0.38	-0.04	0.68	0.66	-0.71
L	70	-0.45	-0.16	0.03	0.60	0.62	-0.48
L	71	-0.71	-0.32	-0.07	0.67	0.65	-0.64
W	9	-0.39	-0.09	0.02	0.59	0.61	-0.41
W	10	-0.62	-0.57	0.27	0.65	0.69	-0.89
W	11	-0.23	0.06	0.03	0.55	0.58	-0.26
W	12	-0.29	-0.20	0.23	0.56	0.63	-0.52
W	13	-0.22	0.00	0.10	0.55	0.59	-0.32
W	14	0.13	0.65	-0.20	0.46	0.47	0.33
W	15	-0.43	-0.04	-0.07	0.60	0.60	-0.36
W	17	-0.39	-0.09	0.03	0.59	0.61	-0.42
W	20	-0.03	0.52	-0.23	0.47	0.49	0.20
W	21	0.17	0.74	-0.25	0.44	0.45	0.42
W	141	-1.09	-1.05	0.28	0.76	0.76	-1.37
W	143	-0.51	-0.18	-0.01	0.62	0.62	-0.50
W	144	-0.88	-0.78	0.22	0.72	0.72	-1.10
W	145	-0.43	-0.03	-0.08	0.60	0.60	-0.35
W	147	-1.01	-0.56	-0.13	0.74	0.69	-0.88
W	148	-0.64	-0.53	0.21	0.65	0.68	-0.85
W	149	-0.62	-0.42	0.13	0.65	0.67	-0.75
W	151	-0.45	-0.37	0.25	0.61	0.66	-0.70
W	152	-0.20	0.20	-0.08	0.54	0.55	-0.12

**Appendix P: 2002 PSSA Grade Eleven Across Year Linking**

Grade 11 Reading							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	Pvalue 2001	Pvalue 2002	2002 Logit*
W	206	-0.19	-0.23	0.05	0.55	0.58	-0.24
W	208	-1.17	-1.37	0.21	0.73	0.77	-1.38
W	209	-1.49	-1.49	0.02	0.77	0.79	-1.51
W	210	-1.97	-2.00	0.05	0.83	0.85	-2.02
W	212	0.61	0.62	0.01	0.40	0.40	0.60
W	213	-0.13	-0.20	0.08	0.54	0.57	-0.21
W	214	-0.87	-0.85	0.00	0.68	0.69	-0.87
W	215	-1.68	-1.66	0.00	0.80	0.81	-1.68
W	216	-0.16	-0.05	-0.09	0.55	0.54	-0.07
W	217	0.23	0.28	-0.03	0.47	0.47	0.26
W	218	0.21	0.19	0.04	0.47	0.49	0.17
W	219	-0.93	-1.03	0.12	0.68	0.72	-1.05
W	220	0.45	0.32	0.15	0.42	0.46	0.30
W	221	-0.69	-0.51	-0.16	0.64	0.63	-0.53
W	222	-0.37	-0.17	-0.18	0.59	0.57	-0.19
W	223	-0.63	-0.48	-0.13	0.63	0.63	-0.50
W	225	-1.83	-1.92	0.10	0.82	0.84	-1.93
W	226	-1.52	-1.43	-0.07	0.78	0.78	-1.45
W	227	0.34	0.22	0.14	0.45	0.49	0.20
W	228	-1.29	-1.36	0.09	0.74	0.77	-1.38

Grade 11 Mathematics							
Form 2002	Seq 2002	Logit 2001	Logit 2002	Difference	Pvalue 2001	Pvalue 2002	Logit 2002*
W	153	-0.48	-0.21	0.05	0.61	0.63	-0.53
W	154	-0.87	-0.50	-0.05	0.71	0.68	-0.82
W	155	-0.23	0.37	-0.28	0.55	0.52	0.05
W	156	-0.14	0.28	-0.10	0.53	0.54	-0.04
W	157	-0.52	-0.27	0.07	0.61	0.64	-0.59
W	158	0.55	1.14	-0.27	0.34	0.37	0.82
W	159	0.17	0.47	0.02	0.45	0.50	0.15
W	162	-0.52	-0.43	0.23	0.62	0.67	-0.75
W	167	-0.69	-0.49	0.12	0.66	0.68	-0.81
W	168	-0.61	-0.55	0.27	0.65	0.69	-0.88
W	172	-0.22	0.40	-0.30	0.54	0.51	0.08
W	175	0.09	0.41	0.00	0.47	0.51	0.09
W	177	-0.40	-0.07	-0.01	0.59	0.60	-0.39
W	178	-0.16	0.42	-0.26	0.53	0.51	0.10
W	179	0.11	0.33	0.10	0.45	0.53	0.01
W	180	-0.14	0.19	-0.01	0.53	0.55	-0.13
W	182	-0.73	-0.55	0.15	0.67	0.69	-0.88
W	186	0.06	0.54	-0.15	0.46	0.49	0.21
W	187	0.41	0.94	-0.21	0.35	0.41	0.62

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
5	A	053	2	1	8	22.44	2.81	1.12	-0.3	A-
5	A	054	2	1	8	115.67	14.46	0.93	0.2	A+
5	A	055	2	1	8	178.61	22.33	0.75	0.7	A+
5	A	056	2	1	8	195.33	24.42	0.81	0.5	A+
5	A	057	2	1	8	44.22	5.53	1.03	-0.1	A-
5	A	058	2	1	8	153.74	19.22	1.00	0.0	A-
5	A	059	2	1	8	112.56	14.07	1.08	-0.2	A-
5	A	060	2	1	8	216.44	27.06	0.90	0.2	A+
5	A	061	2	1	8	340.92	42.61	1.33	-0.7	A-
5	A	062	2	1	8	194.24	24.28	0.97	0.1	A+
5	A	063	2	1	8	140.57	17.57	0.78	0.6	A+
5	A	064	2	1	8	160.27	20.03	1.03	-0.1	A-
5	A	065	2	1	8	111.49	13.94	0.89	0.3	A+
5	A	066	2	1	8	96.52	12.06	1.04	-0.1	A-
5	A	067	2	1	8	260.15	32.52	1.37	-0.7	A-
5	B	053	2	1	8	272.33	34.04	0.70	0.8	A+
5	B	054	2	1	8	9.56	1.19	0.98	0.1	A+
5	B	055	2	1	8	63.58	7.95	0.97	0.1	A+
5	B	056	2	1	8	384.47	48.06	0.79	0.5	A+
5	B	057	2	1	8	364.35	45.54	1.14	-0.3	A-
5	B	058	2	1	8	9.19	1.15	0.91	0.2	A+
5	B	059	2	1	8	218.18	27.27	0.95	0.1	A+
5	B	060	2	1	8	100.05	12.51	1.16	-0.4	A-
5	B	061	2	1	8	642.09	80.26	1.43	-0.8	A-
5	B	062	2	1	8	197.81	24.73	1.10	-0.2	A-
5	B	063	2	1	8	127.63	15.95	1.11	-0.2	A-
5	B	064	2	1	8	460.72	57.59	0.92	0.2	A+
5	B	065	2	1	8	114.17	14.27	1.04	-0.1	A-
5	B	066	2	1	8	231.73	28.97	1.18	-0.4	A-
5	B	067	2	1	8	237.79	29.72	0.85	0.4	A+
5	C	053	2	1	8	89.11	11.14	1.19	-0.4	A-
5	C	054	2	1	8	551.60	68.95	0.90	0.2	A+
5	C	055	2	1	8	153.92	19.24	1.11	-0.2	A-
5	C	056	2	1	8	76.60	9.57	0.80	0.5	A+
5	C	057	2	1	8	53.60	6.70	0.84	0.4	A+
5	C	058	2	1	8	30.94	3.87	0.88	0.3	A+
5	C	059	2	1	8	450.68	56.33	1.22	-0.5	A-
5	C	060	2	1	8	41.60	5.20	1.06	-0.1	A-
5	C	061	2	1	8	137.15	17.14	1.04	-0.1	A-
5	C	062	2	1	8	232.67	29.08	0.96	0.1	A+
5	C	063	2	1	8	192.81	24.10	0.75	0.7	A+
5	C	064	2	1	8	244.65	30.58	0.88	0.3	A+
5	C	065	2	1	8	59.68	7.46	0.98	0.0	A+
5	C	066	2	1	8	165.22	20.65	0.92	0.2	A+
5	C	067	2	1	8	235.73	29.47	0.90	0.2	A+

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
5	D	053	2	1	8	67.51	8.44	0.98	0.1	A+
5	D	054	2	1	8	77.93	9.74	0.76	0.6	A+
5	D	055	2	1	8	67.65	8.46	0.91	0.2	A+
5	D	056	2	1	8	189.71	23.71	0.70	0.9	A+
5	D	057	2	1	8	59.80	7.48	1.26	-0.5	A-
5	D	058	2	1	8	78.55	9.82	1.03	-0.1	A-
5	D	059	2	1	8	138.04	17.26	1.02	0.0	A-
5	D	060	2	1	8	310.69	38.84	1.06	-0.1	A-
5	D	061	2	1	8	111.55	13.94	0.86	0.3	A+
5	D	062	2	1	8	112.16	14.02	0.92	0.2	A+
5	D	063	2	1	8	189.96	23.75	1.26	-0.5	A-
5	D	064	2	1	8	131.53	16.44	0.75	0.7	A+
5	D	065	2	1	8	310.86	38.86	1.20	-0.4	A-
5	D	066	2	1	8	41.16	5.14	1.04	-0.1	A-
5	D	067	2	1	8	82.69	10.34	0.97	0.1	A+
5	E	053	2	1	8	46.01	5.75	0.87	0.3	A+
5	E	054	2	1	8	141.02	17.63	0.70	0.8	A+
5	E	055	2	1	8	223.72	27.97	1.34	-0.7	A-
5	E	056	2	1	8	253.80	31.73	0.91	0.2	A+
5	E	057	2	1	8	68.53	8.57	1.07	-0.2	A-
5	E	058	2	1	8	38.24	4.78	0.91	0.2	A+
5	E	059	2	1	8	74.41	9.30	1.14	-0.3	A-
5	E	060	2	1	8	159.85	19.98	1.14	-0.3	A-
5	E	061	2	1	8	388.64	48.58	1.29	-0.6	A-
5	E	062	2	1	8	244.21	30.53	0.76	0.6	A+
5	E	063	2	1	8	219.82	27.48	0.70	0.8	A+
5	E	064	2	1	8	274.37	34.30	0.95	0.1	A+
5	E	065	2	1	8	433.29	54.16	0.92	0.2	A+
5	E	066	2	1	8	217.98	27.25	1.12	-0.3	A-
5	E	067	2	1	8	69.09	8.64	0.97	0.1	A+
5	F	053	2	1	8	10.02	1.25	1.10	-0.2	A-
5	F	054	2	1	8	483.65	60.46	0.70	0.8	A+
5	F	055	2	1	8	252.96	31.62	0.81	0.5	A+
5	F	056	2	1	8	148.24	18.53	0.91	0.2	A+
5	F	057	2	1	8	68.91	8.61	0.99	0.0	A+
5	F	058	2	1	8	129.75	16.22	0.88	0.3	A+
5	F	059	2	1	8	93.53	11.69	0.93	0.2	A+
5	F	060	2	1	8	238.83	29.85	1.09	-0.2	A-
5	F	061	2	1	8	142.66	17.83	1.29	-0.6	A-
5	F	062	2	1	8	46.50	5.81	0.99	0.0	A+
5	F	063	2	1	8	484.47	60.56	1.32	-0.7	A-
5	F	064	2	1	8	233.90	29.24	0.96	0.1	A+
5	F	065	2	1	8	75.59	9.45	1.15	-0.3	A-
5	F	066	2	1	8	193.19	24.15	1.07	-0.2	A-
5	F	067	2	1	8	105.52	13.19	1.05	-0.1	A-

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
5	G	053	2	1	8	132.60	16.58	1.09	-0.2	A-
5	G	054	2	1	8	137.30	17.16	0.98	0.0	A+
5	G	055	2	1	8	71.45	8.93	0.94	0.1	A+
5	G	056	2	1	8	111.24	13.91	0.93	0.2	A+
5	G	057	2	1	8	190.91	23.86	0.73	0.7	A+
5	G	058	2	1	8	86.68	10.83	1.04	-0.1	A-
5	G	059	2	1	8	265.19	33.15	1.17	-0.4	A-
5	G	060	2	1	8	152.10	19.01	0.93	0.2	A+
5	G	061	2	1	8	676.15	84.52	1.33	-0.7	A-
5	G	062	2	1	8	71.78	8.97	1.15	-0.3	A-
5	G	063	2	1	8	254.72	31.84	0.65	1.0	B+
5	G	064	2	1	8	61.52	7.69	1.02	0.0	A-
5	G	065	2	1	8	53.62	6.70	1.13	-0.3	A-
5	G	066	2	1	8	41.91	5.24	1.15	-0.3	A-
5	G	067	2	1	8	219.00	27.38	1.08	-0.2	A-
5	H	053	2	1	8	153.25	19.16	1.36	-0.7	A-
5	H	054	2	1	8	88.14	11.02	1.20	-0.4	A-
5	H	055	2	1	8	228.49	28.56	0.63	1.1	B+
5	H	056	2	1	8	236.08	29.51	1.08	-0.2	A-
5	H	057	2	1	8	82.71	10.34	0.82	0.5	A+
5	H	058	2	1	8	107.37	13.42	1.05	-0.1	A-
5	H	059	2	1	8	79.85	9.98	1.30	-0.6	A-
5	H	060	2	1	8	126.64	15.83	0.86	0.4	A+
5	H	061	2	1	8	504.68	63.09	1.32	-0.7	A-
5	H	062	2	1	8	120.63	15.08	0.73	0.7	A+
5	H	063	2	1	8	153.56	19.19	0.90	0.2	A+
5	H	064	2	1	8	60.56	7.57	0.98	0.0	A+
5	H	065	2	1	8	43.91	5.49	0.89	0.3	A+
5	H	066	2	1	8	116.94	14.62	0.92	0.2	A+
5	H	067	2	1	8	360.32	45.04	1.40	-0.8	A-
5	I	053	2	1	8	678.75	84.84	1.71	-1.3	B-
5	I	054	2	1	8	34.00	4.25	1.01	0.0	A-
5	I	055	2	1	8	57.87	7.23	1.02	-0.1	A-
5	I	056	2	1	8	173.25	21.66	0.64	1.0	B+
5	I	057	2	1	8	132.35	16.54	1.00	0.0	A+
5	I	058	2	1	8	515.37	64.42	1.48	-0.9	A-
5	I	059	2	1	8	82.00	10.25	1.10	-0.2	A-
5	I	060	2	1	8	95.01	11.88	1.21	-0.5	A-
5	I	061	2	1	8	322.30	40.29	1.20	-0.4	A-
5	I	062	2	1	8	49.31	6.16	1.18	-0.4	A-
5	I	063	2	1	8	38.64	4.83	0.95	0.1	A+
5	I	064	2	1	8	195.04	24.38	0.99	0.0	A+
5	I	065	2	1	8	218.91	27.36	0.73	0.7	A+
5	I	066	2	1	8	171.79	21.47	1.09	-0.2	A-
5	I	067	2	1	8	179.88	22.48	1.32	-0.7	A-

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
5	J	053	2	1	8	125.23	15.65	1.03	-0.1	A-
5	J	054	2	1	8	28.53	3.57	0.93	0.2	A+
5	J	055	2	1	8	285.53	35.69	0.81	0.5	A+
5	J	056	2	1	8	56.96	7.12	1.05	-0.1	A-
5	J	057	2	1	8	131.80	16.47	1.03	-0.1	A-
5	J	058	2	1	8	488.68	61.09	0.69	0.9	A+
5	J	059	2	1	8	179.02	22.38	1.28	-0.6	A-
5	J	060	2	1	8	58.69	7.34	0.94	0.1	A+
5	J	061	2	1	8	374.86	46.86	0.60	1.2	B+
5	J	062	2	1	8	210.24	26.28	0.75	0.7	A+
5	J	063	2	1	8	293.77	36.72	1.43	-0.8	A-
5	J	064	2	1	8	403.40	50.42	1.02	-0.1	A-
5	J	065	2	1	8	88.82	11.10	0.92	0.2	A+
5	J	066	2	1	8	90.49	11.31	0.87	0.3	A+
5	J	067	2	1	8	51.06	6.38	0.98	0.0	A+
5	K	053	2	1	8	224.46	28.06	1.51	-1.0	A-
5	K	054	2	1	8	535.91	66.99	0.68	0.9	A+
5	K	055	2	1	8	60.26	7.53	1.02	0.0	A-
5	K	056	2	1	8	115.62	14.45	0.82	0.5	A+
5	K	057	2	1	8	160.04	20.00	0.83	0.4	A+
5	K	058	2	1	8	163.57	20.45	0.87	0.3	A+
5	K	059	2	1	8	469.16	58.64	0.91	0.2	A+
5	K	060	2	1	8	202.40	25.30	1.00	0.0	A+
5	K	061	2	1	8	112.78	14.10	1.09	-0.2	A-
5	K	062	2	1	8	394.37	49.30	1.12	-0.3	A-
5	K	063	2	1	8	296.32	37.04	0.96	0.1	A+
5	K	064	2	1	8	114.92	14.37	1.04	-0.1	A-
5	K	065	2	1	8	230.53	28.82	0.92	0.2	A+
5	K	066	2	1	8	410.34	51.29	0.85	0.4	A+
5	K	067	2	1	8	65.15	8.14	1.07	-0.2	A-
5	L	053	2	1	8	168.86	21.11	1.40	-0.8	A-
5	L	054	2	1	8	122.70	15.34	0.88	0.3	A+
5	L	055	2	1	8	98.89	12.36	0.82	0.5	A+
5	L	056	2	1	8	66.78	8.35	1.14	-0.3	A-
5	L	057	2	1	8	41.38	5.17	1.15	-0.3	A-
5	L	058	2	1	8	89.31	11.16	0.98	0.0	A+
5	L	059	2	1	8	118.08	14.76	1.00	0.0	A+
5	L	060	2	1	8	221.57	27.70	0.64	1.1	B+
5	L	061	2	1	8	143.39	17.92	0.85	0.4	A+
5	L	062	2	1	8	205.83	25.73	1.32	-0.7	A-
5	L	063	2	1	8	443.94	55.49	0.96	0.1	A+
5	L	064	2	1	8	73.78	9.22	1.04	-0.1	A-
5	L	065	2	1	8	48.25	6.03	1.05	-0.1	A-
5	L	066	2	1	8	192.51	24.06	1.31	-0.6	A-
5	L	067	2	1	8	131.01	16.38	1.13	-0.3	A-

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
8	A	063	2	1	8	550.82	68.85	0.97	0.1	A+
8	A	064	2	1	8	126.65	15.83	0.91	0.2	A+
8	A	065	2	1	8	97.81	12.23	1.30	-0.6	A-
8	A	066	2	1	8	77.65	9.71	0.97	0.1	A+
8	A	067	2	1	8	333.68	41.71	0.70	0.8	A+
8	A	068	2	1	8	281.39	35.17	0.75	0.7	A+
8	A	069	2	1	8	40.47	5.06	0.84	0.4	A+
8	A	070	2	1	8	85.36	10.67	0.94	0.1	A+
8	A	071	2	1	8	207.05	25.88	1.33	-0.7	A-
8	A	072	2	1	8	80.35	10.04	0.94	0.2	A+
8	A	073	2	1	8	183.53	22.94	0.75	0.7	A+
8	A	074	2	1	8	1034.75	129.34	1.18	-0.4	A-
8	A	075	2	1	8	52.25	6.53	1.09	-0.2	A-
8	A	076	2	1	8	90.21	11.28	0.76	0.6	A+
8	A	077	2	1	8	59.07	7.38	1.00	0.0	A
8	B	063	2	1	8	381.22	47.65	0.80	0.5	A+
8	B	064	2	1	8	345.38	43.17	0.81	0.5	A+
8	B	065	2	1	8	177.40	22.17	0.72	0.8	A+
8	B	066	2	1	8	581.18	72.65	0.83	0.5	A+
8	B	067	2	1	8	198.38	24.80	1.05	-0.1	A-
8	B	068	2	1	8	127.55	15.94	1.05	-0.1	A-
8	B	069	2	1	8	167.07	20.88	1.17	-0.4	A-
8	B	070	2	1	8	100.33	12.54	1.00	0.0	A
8	B	071	2	1	8	153.39	19.17	1.35	-0.7	A-
8	B	072	2	1	8	137.71	17.21	0.79	0.5	A+
8	B	073	2	1	8	42.06	5.26	1.03	-0.1	A-
8	B	074	2	1	8	87.88	10.98	1.10	-0.2	A-
8	B	075	2	1	8	355.81	44.48	0.88	0.3	A+
8	B	076	2	1	8	24.20	3.03	1.05	-0.1	A-
8	B	077	2	1	8	128.32	16.04	0.98	0.1	A+
8	C	063	2	1	8	343.28	42.91	0.82	0.5	A+
8	C	064	2	1	8	464.70	58.09	0.87	0.3	A+
8	C	065	2	1	8	54.77	6.85	0.93	0.2	A+
8	C	066	2	1	8	175.96	22.00	0.87	0.3	A+
8	C	067	2	1	8	166.01	20.75	0.93	0.2	A+
8	C	068	2	1	8	747.70	93.46	1.51	-1.0	A-
8	C	069	2	1	8	308.46	38.56	1.01	0.0	A-
8	C	070	2	1	8	140.77	17.60	1.09	-0.2	A-
8	C	071	2	1	8	135.49	16.94	1.06	-0.1	A-
8	C	072	2	1	8	292.57	36.57	1.17	-0.4	A-
8	C	073	2	1	8	21.50	2.69	0.99	0.0	A+
8	C	074	2	1	8	180.18	22.52	1.05	-0.1	A-
8	C	075	2	1	8	388.71	48.59	0.83	0.5	A+
8	C	076	2	1	8	109.22	13.65	0.79	0.5	A+
8	C	077	2	1	8	418.38	52.30	0.88	0.3	A+



**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
8	D	063	2	1	8	497.70	62.21	0.90	0.3	A+
8	D	064	2	1	8	160.95	20.12	0.70	0.8	A+
8	D	065	2	1	8	120.24	15.03	0.86	0.4	A+
8	D	066	2	1	8	290.33	36.29	1.00	0.0	A-
8	D	067	2	1	8	312.91	39.11	1.07	-0.2	A-
8	D	068	2	1	8	546.09	68.26	0.54	1.4	B+
8	D	069	2	1	8	186.90	23.36	1.02	0.0	A-
8	D	070	2	1	8	26.59	3.32	1.02	-0.1	A-
8	D	071	2	1	8	27.08	3.39	1.01	0.0	A-
8	D	072	2	1	8	274.84	34.35	1.21	-0.4	A-
8	D	073	2	1	8	361.82	45.23	1.09	-0.2	A-
8	D	074	2	1	8	77.99	9.75	0.90	0.2	A+
8	D	075	2	1	8	186.35	23.29	0.90	0.2	A+
8	D	076	2	1	8	621.50	77.69	0.97	0.1	A+
8	D	077	2	1	8	13.79	1.72	1.04	-0.1	A-
8	E	063	2	1	8	240.56	30.07	0.71	0.8	A+
8	E	064	2	1	8	148.79	18.60	1.01	0.0	A-
8	E	065	2	1	8	49.17	6.15	0.89	0.3	A+
8	E	066	2	1	8	56.73	7.09	1.12	-0.3	A-
8	E	067	2	1	8	269.49	33.69	0.74	0.7	A+
8	E	068	2	1	8	69.61	8.70	0.97	0.1	A+
8	E	069	2	1	8	89.64	11.20	1.23	-0.5	A-
8	E	070	2	1	8	293.75	36.72	1.27	-0.6	A-
8	E	071	2	1	8	179.29	22.41	1.11	-0.2	A-
8	E	072	2	1	8	171.23	21.40	0.84	0.4	A+
8	E	073	2	1	8	190.14	23.77	1.05	-0.1	A-
8	E	074	2	1	8	301.90	37.74	1.27	-0.6	A-
8	E	075	2	1	8	316.99	39.62	0.68	0.9	A+
8	E	076	2	1	8	394.66	49.33	0.90	0.2	A+
8	E	077	2	1	8	167.11	20.89	1.25	-0.5	A-
8	F	063	2	1	8	31.58	3.95	0.91	0.2	A+
8	F	064	2	1	8	50.31	6.29	1.04	-0.1	A-
8	F	065	2	1	8	263.99	33.00	0.87	0.3	A+
8	F	066	2	1	8	98.12	12.26	1.19	-0.4	A-
8	F	067	2	1	8	128.87	16.11	1.21	-0.4	A-
8	F	068	2	1	8	247.77	30.97	0.96	0.1	A+
8	F	069	2	1	8	113.22	14.15	1.10	-0.2	A-
8	F	070	2	1	8	908.50	113.56	0.62	1.1	B+
8	F	071	2	1	8	64.11	8.01	0.87	0.3	A+
8	F	072	2	1	8	194.96	24.37	1.11	-0.2	A-
8	F	073	2	1	8	119.78	14.97	1.10	-0.2	A-
8	F	074	2	1	8	43.34	5.42	1.16	-0.4	A-
8	F	075	2	1	8	Inf	Inf	0.94	0.2	A+
8	F	076	2	1	8	641.50	80.19	1.25	-0.5	A-
8	F	077	2	1	8	286.02	35.75	0.65	1.0	B+

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
8	G	063	2	1	8	181.66	22.71	0.89	0.3	A+
8	G	064	2	1	8	44.85	5.61	1.00	0.0	A
8	G	065	2	1	8	170.19	21.27	0.80	0.5	A+
8	G	066	2	1	8	132.17	16.52	1.07	-0.2	A-
8	G	067	2	1	8	145.70	18.21	0.83	0.4	A+
8	G	068	2	1	8	44.92	5.61	1.00	0.0	A
8	G	069	2	1	8	501.38	62.67	0.91	0.2	A+
8	G	070	2	1	8	102.04	12.75	1.15	-0.3	A-
8	G	071	2	1	8	64.68	8.08	1.25	-0.5	A-
8	G	072	2	1	8	103.59	12.95	1.13	-0.3	A-
8	G	073	2	1	8	78.20	9.77	0.95	0.1	A+
8	G	074	2	1	8	16.86	2.11	1.11	-0.2	A-
8	G	075	2	1	8	239.54	29.94	0.75	0.7	A+
8	G	076	2	1	8	167.97	21.00	0.81	0.5	A+
8	G	077	2	1	8	413.25	51.66	0.99	0.0	A+
8	H	063	2	1	8	197.29	24.66	0.98	0.0	A+
8	H	064	2	1	8	266.60	33.33	0.65	1.0	A+
8	H	065	2	1	8	30.26	3.78	0.96	0.1	A+
8	H	066	2	1	8	274.48	34.31	0.84	0.4	A+
8	H	067	2	1	8	176.83	22.10	1.01	0.0	A-
8	H	068	2	1	8	389.34	48.67	0.75	0.7	A+
8	H	069	2	1	8	50.47	6.31	1.09	-0.2	A-
8	H	070	2	1	8	168.43	21.05	1.10	-0.2	A-
8	H	071	2	1	8	341.93	42.74	1.12	-0.3	A-
8	H	072	2	1	8	228.35	28.54	0.85	0.4	A+
8	H	073	2	1	8	150.66	18.83	0.85	0.4	A+
8	H	074	2	1	8	192.50	24.06	0.84	0.4	A+
8	H	075	2	1	8	67.09	8.39	1.16	-0.3	A-
8	H	076	2	1	8	170.76	21.34	0.94	0.1	A+
8	H	077	2	1	8	76.29	9.54	0.91	0.2	A+
8	I	063	2	1	8	129.30	16.16	0.92	0.2	A+
8	I	064	2	1	8	185.70	23.21	1.07	-0.2	A-
8	I	065	2	1	8	108.54	13.57	1.03	-0.1	A-
8	I	066	2	1	8	202.04	25.25	1.19	-0.4	A-
8	I	067	2	1	8	187.90	23.49	1.04	-0.1	A-
8	I	068	2	1	8	36.23	4.53	1.05	-0.1	A-
8	I	069	2	1	8	588.05	73.51	0.73	0.7	A+
8	I	070	2	1	8	99.51	12.44	0.92	0.2	A+
8	I	071	2	1	8	135.46	16.93	1.30	-0.6	A-
8	I	072	2	1	8	35.94	4.49	1.14	-0.3	A-
8	I	073	2	1	8	368.62	46.08	1.13	-0.3	A-
8	I	074	2	1	8	73.21	9.15	0.91	0.2	A+
8	I	075	2	1	8	97.21	12.15	0.89	0.3	A+
8	I	076	2	1	8	62.87	7.86	0.89	0.3	A+
8	I	077	2	1	8	209.50	26.19	0.78	0.6	A+

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
8	J	063	2	1	8	31.26	3.91	0.93	0.2	A+
8	J	064	2	1	8	214.48	26.81	0.83	0.5	A+
8	J	065	2	1	8	542.63	67.83	1.02	-0.1	A-
8	J	066	2	1	8	438.63	54.83	0.79	0.6	A+
8	J	067	2	1	8	Inf	Inf	0.78	0.6	A+
8	J	068	2	1	8	116.65	14.58	1.01	0.0	A-
8	J	069	2	1	8	194.04	24.25	1.16	-0.4	A-
8	J	070	2	1	8	83.77	10.47	0.94	0.1	A+
8	J	071	2	1	8	407.59	50.95	0.65	1.0	A+
8	J	072	2	1	8	124.49	15.56	0.92	0.2	A+
8	J	073	2	1	8	134.29	16.79	0.80	0.5	A+
8	J	074	2	1	8	361.87	45.23	0.87	0.3	A+
8	J	075	2	1	8	285.09	35.64	1.52	-1.0	A-
8	J	076	2	1	8	176.79	22.10	0.95	0.1	A+
8	J	077	2	1	8	86.26	10.78	0.83	0.4	A+
8	K	063	2	1	8	107.44	13.43	0.77	0.6	A+
8	K	064	2	1	8	123.55	15.44	0.74	0.7	A+
8	K	065	2	1	8	237.07	29.63	1.01	0.0	A-
8	K	066	2	1	8	115.30	14.41	1.00	0.0	A-
8	K	067	2	1	8	288.63	36.08	1.07	-0.2	A-
8	K	068	2	1	8	354.12	44.27	0.94	0.1	A+
8	K	069	2	1	8	241.87	30.23	0.80	0.5	A+
8	K	070	2	1	8	38.77	4.85	1.15	-0.3	A-
8	K	071	2	1	8	177.50	22.19	1.01	0.0	A-
8	K	072	2	1	8	148.62	18.58	0.95	0.1	A+
8	K	073	2	1	8	91.00	11.38	0.94	0.2	A+
8	K	074	2	1	8	63.40	7.92	1.06	-0.1	A-
8	K	075	2	1	8	176.42	22.05	1.03	-0.1	A-
8	K	076	2	1	8	55.13	6.89	1.10	-0.2	A-
8	K	077	2	1	8	100.16	12.52	0.90	0.3	A+
8	L	063	2	1	8	94.03	11.75	1.12	-0.3	A-
8	L	064	2	1	8	21.80	2.73	1.02	0.0	A-
8	L	065	2	1	8	516.75	64.59	1.21	-0.5	A-
8	L	066	2	1	8	132.55	16.57	1.24	-0.5	A-
8	L	067	2	1	8	179.51	22.44	0.67	0.9	A+
8	L	068	2	1	8	298.63	37.33	0.67	0.9	A+
8	L	069	2	1	8	139.88	17.48	1.30	-0.6	A-
8	L	070	2	1	8	533.94	66.74	1.36	-0.7	A-
8	L	071	2	1	8	113.37	14.17	1.22	-0.5	A-
8	L	072	2	1	8	71.01	8.88	1.30	-0.6	A-
8	L	073	2	1	8	193.87	24.23	0.92	0.2	A+
8	L	074	2	1	8	17.11	2.14	0.98	0.0	A+
8	L	75	2	1	8	531.64	66.45	0.74	0.7	A+
8	L	076	2	1	8	133.09	16.64	1.16	-0.3	A-
8	L	077	2	1	8	104.09	13.01	0.85	0.4	A+

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
11	A	067	1	2	8	11.07	1.38	1.19	-0.4	A-
11	A	068	1	2	8	7.29	0.91	0.98	0.1	A+
11	A	069	1	2	8	2.66	0.33	1.03	-0.1	A-
11	A	070	1	2	8	8.05	1.01	1.06	-0.1	A-
11	A	071	1	2	8	9.14	1.14	1.22	-0.5	A-
11	A	072	1	2	8	17.54	2.19	0.90	0.3	A+
11	A	073	1	2	8	4.47	0.56	0.91	0.2	A+
11	A	074	1	2	8	13.31	1.66	1.23	-0.5	A-
11	A	075	1	2	8	5.30	0.66	1.01	0.0	A-
11	A	076	1	2	8	13.05	1.63	1.13	-0.3	A-
11	A	077	1	2	8	8.80	1.10	1.06	-0.1	A-
11	A	078	1	2	8	12.36	1.55	1.21	-0.4	A-
11	A	079	1	2	8	13.04	1.63	1.15	-0.3	A-
11	A	080	1	2	8	7.14	0.89	0.93	0.2	A+
11	A	081	1	2	8	15.73	1.97	0.84	0.4	A+
11	B	067	1	2	8	5.67	0.71	0.99	0.0	A+
11	B	068	1	2	8	28.80	3.60	0.71	0.8	A+
11	B	069	1	2	8	45.23	5.65	0.68	0.9	A+
11	B	070	1	2	8	12.95	1.62	0.92	0.2	A+
11	B	071	1	2	8	14.90	1.86	1.07	-0.2	A-
11	B	072	1	2	8	14.77	1.85	0.80	0.5	A+
11	B	073	1	2	8	21.04	2.63	1.36	-0.7	A-
11	B	074	1	2	8	11.83	1.48	1.14	-0.3	A-
11	B	075	1	2	8	10.42	1.30	0.87	0.3	A+
11	B	076	1	2	8	7.90	0.99	1.06	-0.1	A-
11	B	077	1	2	8	38.78	4.85	1.51	-1.0	A-
11	B	078	1	2	8	8.73	1.09	1.03	-0.1	A-
11	B	079	1	2	8	25.40	3.17	1.42	-0.8	A-
11	B	080	1	2	8	4.31	0.54	0.89	0.3	A+
11	B	081	1	2	8	27.36	3.42	0.71	0.8	A+
11	C	067	1	2	8	25.66	3.21	1.49	-0.9	A-
11	C	068	1	2	8	98.69	12.34	2.16	-1.8	C-
11	C	069	1	2	8	4.78	0.60	0.87	0.3	A+
11	C	070	1	2	8	32.90	4.11	0.92	0.2	A+
11	C	071	1	2	8	70.28	8.79	0.60	1.2	B+
11	C	072	1	2	8	17.20	2.15	0.90	0.3	A+
11	C	073	1	2	8	19.06	2.38	1.31	-0.6	A-
11	C	074	1	2	8	16.59	2.07	1.31	-0.6	A-
11	C	075	1	2	8	11.29	1.41	1.19	-0.4	A-
11	C	076	1	2	8	13.13	1.64	0.86	0.4	A+
11	C	077	1	2	8	8.45	1.06	0.97	0.1	A+
11	C	078	1	2	8	4.63	0.58	0.96	0.1	A+
11	C	079	1	2	8	21.32	2.67	0.75	0.7	A+
11	C	080	1	2	8	24.29	3.04	1.47	-0.9	A-
11	C	081	1	2	8	26.86	3.36	0.91	0.2	A+

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
11	D	067	1	2	8	18.03	2.25	1.32	-0.7	A-
11	D	068	1	2	8	17.55	2.19	1.05	-0.1	A-
11	D	069	1	2	8	17.32	2.16	0.83	0.4	A+
11	D	070	1	2	8	20.63	2.58	0.90	0.2	A+
11	D	071	1	2	8	9.58	1.20	1.21	-0.4	A-
11	D	072	1	2	8	10.98	1.37	0.90	0.3	A+
11	D	073	1	2	8	8.03	1.00	0.90	0.2	A+
11	D	074	1	2	8	8.38	1.05	1.07	-0.2	A-
11	D	075	1	2	8	14.49	1.81	1.19	-0.4	A-
11	D	076	1	2	8	25.01	3.13	1.19	-0.4	A-
11	D	077	1	2	8	16.24	2.03	0.86	0.4	A+
11	D	078	1	2	8	35.98	4.50	0.66	1.0	A+
11	D	079	1	2	8	8.19	1.02	0.85	0.4	A+
11	D	080	1	2	8	10.78	1.35	0.96	0.1	A+
11	D	081	1	2	8	51.38	6.42	1.74	-1.3	B-
11	E	067	1	2	8	7.17	0.90	0.91	0.2	A+
11	E	068	1	2	8	46.97	5.87	1.69	-1.2	B-
11	E	069	1	2	8	55.62	6.95	1.60	-1.1	B-
11	E	070	1	2	8	5.60	0.70	1.08	-0.2	A-
11	E	071	1	2	8	17.78	2.22	0.79	0.6	A+
11	E	072	1	2	8	41.75	5.22	1.53	-1.0	B-
11	E	073	1	2	8	15.19	1.90	0.83	0.4	A+
11	E	074	1	2	8	46.27	5.78	1.66	-1.2	B-
11	E	075	1	2	8	8.46	1.06	0.94	0.1	A+
11	E	076	1	2	8	7.76	0.97	0.94	0.1	A+
11	E	077	1	2	8	13.65	1.71	0.86	0.4	A+
11	E	078	1	2	8	16.08	2.01	1.14	-0.3	A-
11	E	079	1	2	8	11.31	1.41	1.16	-0.4	A-
11	E	080	1	2	8	5.32	0.66	0.89	0.3	A+
11	E	081	1	2	8	29.88	3.73	0.79	0.5	A+
11	F	067	1	2	8	24.38	3.05	1.29	-0.6	A-
11	F	068	1	2	8	22.13	2.77	1.37	-0.7	A-
11	F	069	1	2	8	51.36	6.42	1.56	-1.0	B-
11	F	070	1	2	8	6.78	0.85	0.88	0.3	A+
11	F	071	1	2	8	7.97	1.00	0.86	0.3	A+
11	F	072	1	2	8	18.58	2.32	1.10	-0.2	A-
11	F	073	1	2	8	15.02	1.88	1.20	-0.4	A-
11	F	074	1	2	8	4.33	0.54	1.04	-0.1	A-
11	F	075	1	2	8	26.21	3.28	0.89	0.3	A+
11	F	076	1	2	8	7.35	0.92	1.05	-0.1	A-
11	F	077	1	2	8	20.79	2.60	1.30	-0.6	A-
11	F	078	1	2	8	34.48	4.31	0.69	0.9	A+
11	F	079	1	2	8	25.83	3.23	0.79	0.6	A+
11	F	080	1	2	8	12.58	1.57	1.10	-0.2	A-
11	F	081	1	2	8	5.75	0.72	0.96	0.1	A+

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
11	G	067	1	2	8	88.67	11.08	1.88	-1.5	B-
11	G	068	1	2	8	5.15	0.64	0.90	0.2	A+
11	G	069	1	2	8	4.85	0.61	0.95	0.1	A+
11	G	070	1	2	8	7.33	0.92	0.99	0.0	A+
11	G	071	1	2	8	23.87	2.98	1.28	-0.6	A-
11	G	072	1	2	8	9.30	1.16	1.04	-0.1	A-
11	G	073	1	2	8	5.23	0.65	1.05	-0.1	A-
11	G	074	1	2	8	17.22	2.15	1.15	-0.3	A-
11	G	075	1	2	8	17.49	2.19	0.84	0.4	A+
11	G	076	1	2	8	17.10	2.14	1.10	-0.2	A-
11	G	077	1	2	8	18.70	2.34	1.20	-0.4	A-
11	G	078	1	2	8	13.67	1.71	0.92	0.2	A+
11	G	079	1	2	8	22.45	2.81	0.76	0.6	A+
11	G	080	1	2	8	17.87	2.23	0.80	0.5	A+
11	G	081	1	2	8	11.94	1.49	1.23	-0.5	A-
11	H	067	1	2	8	26.70	3.34	1.33	-0.7	A-
11	H	068	1	2	8	22.23	2.78	0.98	0.1	A+
11	H	069	1	2	8	7.15	0.89	0.99	0.0	A+
11	H	070	1	2	8	8.00	1.00	0.95	0.1	A+
11	H	071	1	2	8	11.80	1.48	1.18	-0.4	A-
11	H	072	1	2	8	11.56	1.45	0.99	0.0	A+
11	H	073	1	2	8	12.41	1.55	1.06	-0.1	A-
11	H	074	1	2	8	10.96	1.37	1.19	-0.4	A-
11	H	075	1	2	8	8.75	1.09	0.92	0.2	A+
11	H	076	1	2	8	21.52	2.69	0.73	0.8	A+
11	H	077	1	2	8	16.33	2.04	1.19	-0.4	A-
11	H	078	1	2	8	7.70	0.96	0.91	0.2	A+
11	H	079	1	2	8	25.31	3.16	0.77	0.6	A+
11	H	080	1	2	8	30.79	3.85	0.68	0.9	A+
11	H	081	1	2	8	17.35	2.17	1.22	-0.5	A-
11	I	067	1	2	8	7.37	0.92	1.16	-0.4	A-
11	I	068	1	2	8	27.15	3.39	1.39	-0.8	A-
11	I	069	1	2	8	25.84	3.23	1.32	-0.7	A-
11	I	070	1	2	8	15.87	1.98	0.89	0.3	A+
11	I	071	1	2	8	15.94	1.99	1.15	-0.3	A-
11	I	072	1	2	8	21.77	2.72	1.28	-0.6	A-
11	I	073	1	2	8	12.64	1.58	0.89	0.3	A+
11	I	074	1	2	8	30.11	3.76	0.75	0.7	A+
11	I	075	1	2	8	11.79	1.47	0.88	0.3	A+
11	I	076	1	2	8	11.84	1.48	1.04	-0.1	A-
11	I	077	1	2	8	39.91	4.99	0.76	0.6	A+
11	I	078	1	2	8	8.94	1.12	0.84	0.4	A+
11	I	079	1	2	8	17.59	2.20	0.77	0.6	A+
11	I	080	1	2	8	22.30	2.79	0.90	0.2	A+
11	I	081	1	2	8	10.16	1.27	1.19	-0.4	A-

**Appendix Q: 2002 PSSA DIF Analysis**  
**Multiple Choice Mathematics Items**

Grade	Form	Sequence	Reference	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
11	J	067	1	2	8	3.28	0.41	0.92	0.2	A+
11	J	068	1	2	8	3.46	0.43	1.00	0.0	A
11	J	069	1	2	8	11.13	1.39	1.12	-0.3	A-
11	J	070	1	2	8	2.92	0.37	0.97	0.1	A+
11	J	071	1	2	8	23.05	2.88	1.33	-0.7	A-
11	J	072	1	2	8	13.70	1.71	1.29	-0.6	A-
11	J	073	1	2	8	10.78	1.35	0.90	0.3	A+
11	J	074	1	2	8	5.59	0.70	1.00	0.0	A
11	J	075	1	2	8	14.96	1.87	0.77	0.6	A+
11	J	076	1	2	8	41.71	5.21	1.88	-1.5	B-
11	J	077	1	2	8	9.94	1.24	0.83	0.4	A+
11	J	078	1	2	8	7.44	0.93	1.07	-0.2	A-
11	J	079	1	2	8	22.04	2.75	0.71	0.8	A+
11	J	080	1	2	8	22.04	2.75	0.86	0.4	A+
11	J	081	1	2	8	28.87	3.61	0.77	0.6	A+
11	K	067	1	2	8	61.92	7.74	1.78	-1.4	B-
11	K	068	1	2	8	38.34	4.79	1.55	-1.0	B-
11	K	069	1	2	8	104.66	13.08	1.77	-1.3	B-
11	K	070	1	2	8	22.83	2.85	0.77	0.6	A+
11	K	071	1	2	8	15.85	1.98	1.26	-0.5	A-
11	K	072	1	2	8	8.76	1.09	1.02	0.0	A-
11	K	073	1	2	8	23.11	2.89	1.12	-0.3	A-
11	K	074	1	2	8	6.10	0.76	0.87	0.3	A+
11	K	075	1	2	8	6.77	0.85	0.86	0.3	A+
11	K	076	1	2	8	17.24	2.15	0.80	0.5	A+
11	K	077	1	2	8	11.06	1.38	0.99	0.0	A+
11	K	078	1	2	8	12.36	1.55	0.83	0.4	A+
11	K	079	1	2	8	16.08	2.01	0.82	0.5	A+
11	K	080	1	2	8	29.77	3.72	0.73	0.7	A+
11	K	081	1	2	8	6.19	0.77	1.17	-0.4	A-
11	L	067	1	2	8	13.56	1.69	0.96	0.1	A+
11	L	068	1	2	8	9.42	1.18	1.18	-0.4	A-
11	L	069	1	2	8	3.17	0.40	0.99	0.0	A+
11	L	070	1	2	8	15.10	1.89	1.00	0.0	A
11	L	071	1	2	8	15.44	1.93	1.22	-0.5	A-
11	L	072	1	2	8	22.58	2.82	0.85	0.4	A+
11	L	073	1	2	8	3.52	0.44	1.03	-0.1	A-
11	L	074	1	2	8	53.68	6.71	1.67	-1.2	B-
11	L	075	1	2	8	20.11	2.51	1.01	0.0	A-
11	L	076	1	2	8	1.58	0.20	0.95	0.1	A+
11	L	077	1	2	8	9.82	1.23	1.00	0.0	A
11	L	078	1	2	8	5.69	0.71	1.04	-0.1	A-
11	L	079	1	2	8	7.53	0.94	0.95	0.1	A+
11	L	080	1	2	8	10.51	1.31	0.91	0.2	A+
11	L	081	1	2	8	17.45	2.18	1.05	-0.1	A-

**Appendix R: 2002 PSAA DIF Analysis  
Open Ended Mathematics Items**

<b>Black / White</b>											
<b>Grade</b>	<b>Item Name</b>	<b>Form</b>	<b>Sequence</b>	<b>Ref</b>	<b>Focal</b>	<b>d.f.</b>	<b>Max Score</b>	<b>SMD</b>	<b>SE of SMD</b>	<b>Effect</b>	<b>Code</b>
5	A5MA075P07	A	075	2	1	8	5	0.16	0.04	4.2	B+
5	B5MB075P02	B	075	2	1	8	5	0.05	0.04	1.3	A+
5	C5MC075P11	C	075	2	1	8	5	-0.04	0.04	-1	A-
5	D5MD075P03	D	075	2	1	8	5	0.17	0.04	4.8	B+
5	E5ME075P03	E	075	2	1	8	5	-0.03	0.04	-0.6	A-
5	F5MF075P02	F	075	2	1	8	5	-0.06	0.04	-1.4	A-
5	G5MG075P03	G	075	2	1	8	5	-0.05	0.04	-1.4	A-
5	H5MH075P02	H	075	2	1	8	5	0.06	0.04	1.7	A+
5	I5MI075P04	I	075	2	1	8	5	0.07	0.03	2.1	B+
5	J5MJ075P06	J	075	2	1	8	5	0.03	0.04	0.8	A+
5	K5MK075P09	K	075	2	1	8	5	0.11	0.04	3	B+
5	L5ML075P01	L	075	2	1	8	5	-0.21	0.03	-6.4	C-
8	A8MA085P02	A	085	2	1	8	5	0.20	0.04	5	C+
8	B8MB085P10	B	085	2	1	8	5	0.17	0.05	3.7	B+
8	C8MC085P09	C	085	2	1	8	5	0.24	0.04	5.9	C+
8	D8MD085P07	D	085	2	1	8	5	0.19	0.04	4.9	B+
8	E8ME085P08	E	085	2	1	8	5	0.10	0.04	2.6	B+
8	F8MF085P02	F	085	2	1	8	5	0.29	0.04	6.8	C+
8	G8MG085P02	G	085	2	1	8	5	0.08	0.05	1.7	A+
8	H8MH085P06	H	085	2	1	8	5	0.07	0.04	1.7	A+
8	I8MI085P03	I	085	2	1	8	5	0.26	0.05	5.3	C+
8	J8MJ085P01	J	085	2	1	8	5	0.08	0.04	1.9	A+
8	K8MK085P03	K	085	2	1	8	5	0.30	0.05	6.1	C+
8	L8ML085P02	L	085	2	1	8	5	0.14	0.04	3.4	B+
11	A1MA091P	A	091	1	2	8	5	0.05	0.02	2.3	B+
11	B1MB091P	B	091	1	2	8	5	-0.12	0.03	-4.2	B-
11	C1MC091P	C	091	1	2	8	5	-0.03	0.02	-1.3	A-
11	D1MD091P	D	091	1	2	8	5	-0.01	0.03	-0.3	A-
11	E1ME091P	E	091	1	2	8	5	0.18	0.04	4.9	B+
11	F1MF091P	F	091	1	2	8	5	-0.02	0.02	-0.8	A-
11	G1MG091P	G	091	1	2	8	5	0.00	0.02	-0.2	A-
11	H1MH091P	H	091	1	2	8	5	-0.13	0.02	-6.4	C-
11	I1MI091P	I	091	1	2	8	5	-0.10	0.03	-3.6	B-
11	J1MJ091P	J	091	1	2	8	5	-0.08	0.02	-3.6	B-
11	K1MK091P	K	091	1	2	8	5	-0.03	0.02	-1.3	A-
11	L1ML091P	L	091	1	2	8	5	-0.01	0.02	-0.4	A-



# Appendix S: 2002 PSSA DIF Plots Grade 5 Mathematics Items

Latino / White

**Form J Sequence 61**

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code		
0	1	2	3	4	5	6	7	8	9	0	J5MJ061M07	172	3	1	8	637.57	79.70	0.50	1.6	C+
										****FOCAL****	**REFERENCE**									
										*	0.99	1392	1.00	13						
										*****	0.97	1334	0.83	23						
										*****	0.95	1259	0.86	37						
										*****	0.93	1114	0.81	32						
										*****	0.84	1042	0.73	52						
										*****	0.74	1055	0.61	71						
										*****	0.55	829	0.41	117						
										*****	0.37	650	0.26	120						
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total						



## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

Male / Female

### Form A Sequence 91

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
A1MA091P	198	2	1	8	5	-0.144	0.018		-8.2	C-

0	1	2	3	4	5	****FOCAL****	**REFERENCE**		
						2.48	686	2.65	558
						1.28	674	1.60	610
						0.87	624	1.14	655
						0.71	629	0.85	610
						0.57	640	0.64	646
						0.42	599	0.49	620
						0.26	543	0.33	609
						0.10	651	0.13	526
0	1	2	3	4	5	Right Total		Right Total	

### Form E Sequence 91

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
E1ME091P	198	2	1	8	5	-0.249	0.021		-11.9	C-

0	1	2	3	4	5	****FOCAL****	**REFERENCE**		
						3.82	642	4.25	593
						3.18	807	3.48	745
						2.82	399	3.05	407
						2.37	755	2.65	862
						1.66	705	1.89	792
						1.01	658	1.18	683
						0.41	622	0.63	526
						0.11	426	0.17	370
0	1	2	3	4	5	Right Total		Right Total	

### Form F Sequence 91

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
F1MF091P	198	2	1	8	5	-0.156	0.016		-9.7	C-

0	1	2	3	4	5	****FOCAL****	**REFERENCE**		
						3.33	740	3.59	696
						1.27	779	1.57	739
						0.44	776	0.72	765
						0.36	449	0.46	460
						0.23	481	0.31	481
						0.15	478	0.22	488
						0.10	836	0.13	826
						0.04	563	0.06	448
0	1	2	3	4	5	Right Total		Right Total	

### Form G Sequence 67

-Selected	Response--	Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
G1MG067M	164	2	1	8	403.37	50.42	0.47	1.8	C+	

0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	**REFERENCE**		
											0.97	833	0.95	657
											0.94	560	0.90	544
											0.90	769	0.86	726
											0.88	745	0.75	852
											0.84	422	0.66	442
											0.73	765	0.55	801
											0.62	375	0.46	369
											0.45	603	0.26	683
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total	

## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

### Form G Sequence 91

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
G1MG091P 198 2	1	8	5	-0.173	0.017	-10.3	C-

Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
0	1	2	3	4	5	3.19	833	3.54	657
						1.63	560	1.84	544
						1.05	769	1.19	726
						0.62	745	0.79	852
						0.40	422	0.55	442
						0.22	765	0.38	801
						0.12	375	0.18	369
						0.03	573	0.07	651
0	1	2	3	4	5	Right Total		Right Total	

### Form I Sequence 91

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
I1MI091P 198 2	1	8	5	-0.101	0.018	-5.6	C-

Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
0	1	2	3	4	5	4.43	588	4.61	477
						4.03	614	4.18	560
						3.46	696	3.65	630
						2.56	738	2.52	728
						1.52	798	1.51	853
						0.98	731	1.11	795
						0.64	571	0.76	591
						0.28	382	0.45	365
0	1	2	3	4	5	Right Total		Right Total	

### Form J Sequence 76

-Selected Response-- Seq Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
J1MJ076M 173 2	1	8	323.64	40.45	0.52	1.5	C+

Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code						
0	1	2	3	4	5	6	7	8	9	0	0.99	523	0.99	458
											0.97	756	0.94	712
											0.89	725	0.80	812
											0.70	743	0.55	836
											0.46	359	0.33	409
											0.33	767	0.17	817
											0.18	631	0.10	609
											0.06	498	0.06	479
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total	

### Form J Sequence 91

Constructed Response Seq Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
J1MJ091P 198 2	1	8	5	0.081	0.014	5.9	C+

Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
0	1	2	3	4	5	3.14	523	3.01	458
						1.93	756	1.88	712
						1.57	725	1.49	812
						1.33	743	1.19	836
						1.06	359	1.00	409
						0.83	767	0.75	817
						0.52	631	0.46	609
						0.20	469	0.16	455
0	1	2	3	4	5	Right Total		Right Total	

## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

### Form K Sequence 69

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
K1MK069M										166	2	1	8	400.00	50.00	0.45	1.9	C+
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
											0.99	560	0.96	513				
											0.95	583	0.90	544				
											0.93	597	0.86	639				
											0.92	690	0.83	663				
											0.86	796	0.71	847				
											0.79	475	0.63	493				
											0.72	780	0.51	775				
											0.43	621	0.32	697				
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total				

### Form K Sequence 91

Constructed Response										Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
K1MK091P										198	2	1	8	5	-0.115	0.017	-6.8	C-
0	1	2	3	4	5	****FOCAL****		*REFERENCE**										
						4.09	560	4.21	513									
						3.23	583	3.41	544									
						2.46	597	2.57	639									
						1.56	690	1.65	663									
						0.76	796	0.95	847									
						0.37	475	0.51	493									
						0.20	780	0.25	775									
						0.04	598	0.08	665									
0	1	2	3	4	5	Right	Total	Right	Total									

## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

Black / White

### Form C Sequence 68

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code																																																												
C1MC068M		165	1	2	8	98.69	12.34	2.16	-1.8	C-																																																												
0	1	2	3	4	5	6	7	8	9	0																																																												
****FOCAL**** *REFERENCE**																																																																						
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%; text-align: right;">*+</td> <td style="width: 10%; text-align: right;">1.00</td> <td style="width: 10%; text-align: right;">18</td> <td style="width: 10%; text-align: right;">0.98</td> <td style="width: 10%; text-align: right;">975</td> </tr> <tr> <td></td> <td style="text-align: right;">*++</td> <td style="text-align: right;">1.00</td> <td style="text-align: right;">32</td> <td style="text-align: right;">0.97</td> <td style="text-align: right;">1040</td> </tr> <tr> <td></td> <td style="text-align: right;">---*</td> <td style="text-align: right;">0.89</td> <td style="text-align: right;">57</td> <td style="text-align: right;">0.96</td> <td style="text-align: right;">1255</td> </tr> <tr> <td></td> <td style="text-align: right;">---*</td> <td style="text-align: right;">0.91</td> <td style="text-align: right;">53</td> <td style="text-align: right;">0.96</td> <td style="text-align: right;">771</td> </tr> <tr> <td></td> <td style="text-align: right;">---*</td> <td style="text-align: right;">0.87</td> <td style="text-align: right;">89</td> <td style="text-align: right;">0.92</td> <td style="text-align: right;">850</td> </tr> <tr> <td></td> <td style="text-align: right;">-*</td> <td style="text-align: right;">0.89</td> <td style="text-align: right;">120</td> <td style="text-align: right;">0.92</td> <td style="text-align: right;">865</td> </tr> <tr> <td></td> <td style="text-align: right;">-----*</td> <td style="text-align: right;">0.73</td> <td style="text-align: right;">267</td> <td style="text-align: right;">0.87</td> <td style="text-align: right;">1437</td> </tr> <tr> <td></td> <td></td> <td style="text-align: right;">0.46</td> <td style="text-align: right;">255</td> <td style="text-align: right;">0.63</td> <td style="text-align: right;">864</td> </tr> <tr> <td colspan="6" style="border-top: 1px solid black;">0    1    2    3    4    5    6    7    8    9    0</td> </tr> <tr> <td colspan="6" style="border-top: 1px solid black;">Right Total</td> </tr> </table>												*+	1.00	18	0.98	975		*++	1.00	32	0.97	1040		---*	0.89	57	0.96	1255		---*	0.91	53	0.96	771		---*	0.87	89	0.92	850		-*	0.89	120	0.92	865		-----*	0.73	267	0.87	1437			0.46	255	0.63	864	0    1    2    3    4    5    6    7    8    9    0						Right Total					
	*+	1.00	18	0.98	975																																																																	
	*++	1.00	32	0.97	1040																																																																	
	---*	0.89	57	0.96	1255																																																																	
	---*	0.91	53	0.96	771																																																																	
	---*	0.87	89	0.92	850																																																																	
	-*	0.89	120	0.92	865																																																																	
	-----*	0.73	267	0.87	1437																																																																	
		0.46	255	0.63	864																																																																	
0    1    2    3    4    5    6    7    8    9    0																																																																						
Right Total																																																																						

### Form H Sequence 91

Constructed Response		Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code																																																				
H1MH091P		198	1	2	8	5	-0.134	0.021	-6.4	C-																																																				
0	1	2	3	4	5																																																									
****FOCAL**** *REFERENCE**																																																														
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%; text-align: right;">2.76</td> <td style="width: 10%; text-align: right;">17</td> <td style="width: 10%; text-align: right;">3.34</td> <td style="width: 10%; text-align: right;">1236</td> </tr> <tr> <td></td> <td style="text-align: right;">1.45</td> <td style="text-align: right;">29</td> <td style="text-align: right;">1.96</td> <td style="text-align: right;">1052</td> </tr> <tr> <td></td> <td style="text-align: right;">0.97</td> <td style="text-align: right;">38</td> <td style="text-align: right;">1.38</td> <td style="text-align: right;">1315</td> </tr> <tr> <td></td> <td style="text-align: right;">0.80</td> <td style="text-align: right;">41</td> <td style="text-align: right;">0.97</td> <td style="text-align: right;">740</td> </tr> <tr> <td></td> <td style="text-align: right;">0.47</td> <td style="text-align: right;">58</td> <td style="text-align: right;">0.71</td> <td style="text-align: right;">797</td> </tr> <tr> <td></td> <td style="text-align: right;">0.30</td> <td style="text-align: right;">196</td> <td style="text-align: right;">0.42</td> <td style="text-align: right;">1434</td> </tr> <tr> <td></td> <td style="text-align: right;">0.08</td> <td style="text-align: right;">240</td> <td style="text-align: right;">0.19</td> <td style="text-align: right;">1063</td> </tr> <tr> <td></td> <td style="text-align: right;">0.04</td> <td style="text-align: right;">256</td> <td style="text-align: right;">0.06</td> <td style="text-align: right;">599</td> </tr> <tr> <td colspan="6" style="border-top: 1px solid black;">0    1    2    3    4    5</td> </tr> <tr> <td colspan="6" style="border-top: 1px solid black;">Right Total</td> </tr> </table>												2.76	17	3.34	1236		1.45	29	1.96	1052		0.97	38	1.38	1315		0.80	41	0.97	740		0.47	58	0.71	797		0.30	196	0.42	1434		0.08	240	0.19	1063		0.04	256	0.06	599	0    1    2    3    4    5						Right Total					
	2.76	17	3.34	1236																																																										
	1.45	29	1.96	1052																																																										
	0.97	38	1.38	1315																																																										
	0.80	41	0.97	740																																																										
	0.47	58	0.71	797																																																										
	0.30	196	0.42	1434																																																										
	0.08	240	0.19	1063																																																										
	0.04	256	0.06	599																																																										
0    1    2    3    4    5																																																														
Right Total																																																														

## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

Latino / White

### Form A Sequence 80

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code										
										AlMA080M	177	1	3	8	41.55	5.19	0.48	1.7	C+									
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****REFERENCE**																
										0.82	11	0.81	1101															
										0.80	15	0.54	1160															
										0.25	20	0.38	1153															
										0.42	24	0.26	1087															
										0.23	30	0.19	1080															
										0.21	47	0.14	943															
										0.29	55	0.12	803															
										0.21	97	0.09	751															
0										1	2	3	4	5	6	7	8	9	0	Right Total	Right Total							

### Form H Sequence 67

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code										
										HlMH067M	164	1	3	8	27.44	3.43	2.00	-1.6	C-									
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****REFERENCE**																
										*	1.00	9	0.99	1236														
										*+	1.00	9	0.98	1052														
										*+	1.00	19	0.98	1315														
										--*	0.95	19	0.97	740														
										-*	0.94	17	0.96	797														
										-----*	0.83	64	0.94	1434														
										----*	0.78	78	0.84	1063														
										-----*	0.45	67	0.61	635														
0										1	2	3	4	5	6	7	8	9	0	Right Total	Right Total							

## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

Title 1 / Non-Title 1

### Form E Sequence 91

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
E1ME091P	198	2	1	8	5	0.247	0.038	6.5	C+	
0	1	2	3	4	5	Right Total	Right Total			

### Form G Sequence 67

-Selected Response--	Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
G1MG067M	164	2	1	8	160.70	20.09	2.53	-2.2	C-	
0	1	2	3	4	5	6	7	8	9	0
Right Total										

### Form K Sequence 69

-Selected Response--	Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
K1MK069M	166	2	1	8	137.89	17.24	2.02	-1.7	C-	
0	1	2	3	4	5	6	7	8	9	0
Right Total										



## Appendix S: PSSA 2002 DIF Plots Grade 11 Mathematics Items

### Economic Disadvantage / Economic Advantage

**Form E Sequence 91**

Constructed	Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
E1ME091P	198	2	2	1	8	5	0.205	0.029	7.0	C+	
							****FOCAL****	****REFERENCE****			
0	1	2	3	4	5						
								4.19	42	4.01	1204
								3.41	106	3.31	1448
								3.23	66	2.90	725
								2.86	182	2.47	1448
								2.00	226	1.73	1258
								1.34	255	1.06	1085
								0.64	296	0.47	821
								0.15	259	0.15	520
0	1	2	3	4	5			Right	Total	Right	Total

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 5 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
A	084	2	1	8	76.87	9.61	0.83	0.4	A+	0.78
A	085	2	1	8	68.31	8.54	1.08	-0.2	A-	0.82
A	086	2	1	8	125.23	15.65	1.18	-0.4	A-	0.52
A	087	2	1	8	85.36	10.67	1.07	-0.2	A-	0.52
A	088	2	1	8	142.98	17.87	0.94	0.1	A+	0.66
A	089	2	1	8	452	56.5	1.34	-0.7	A-	0.43
A	090	2	1	8	265.26	33.16	1.39	-0.8	A-	0.35
A	091	2	1	8	125.93	15.74	0.83	0.4	A+	0.79
A	092	2	1	8	162.36	20.3	1.17	-0.4	A-	0.57
A	093	2	1	8	82.43	10.3	0.89	0.3	A+	0.77
A	094	2	1	8	484.7	60.59	0.76	0.7	A+	0.49
A	095	2	1	8	67.64	8.46	1.08	-0.2	A-	0.64
A	096	2	1	8	100.32	12.54	0.81	0.5	A+	0.51
A	097	2	1	8	78.88	9.86	0.88	0.3	A+	0.84
A	098	2	1	8	33.85	4.23	0.97	0.1	A+	0.72
A	099	2	1	8	132.14	16.52	1.01	0	A-	0.30
A	100	2	1	8	42.75	5.34	1.04	-0.1	A-	0.71
A	101	2	1	8	578.74	72.34	1.43	-0.8	A-	0.59
A	103	2	1	8	39.99	5	1.07	-0.2	A-	0.84
A	104	2	1	8	71.3	8.91	0.86	0.3	A+	0.83
A	105	2	1	8	106.01	13.25	0.91	0.2	A+	0.81
A	106	2	1	8	105.92	13.24	0.91	0.2	A+	0.86
A	107	2	1	8	170.96	21.37	1.47	-0.9	A-	0.76
A	108	2	1	8	54.88	6.86	0.91	0.2	A+	0.71
A	109	2	1	8	193.23	24.15	0.85	0.4	A+	0.70
B	084	2	1	8	362.37	45.3	1.14	-0.3	A-	0.79
B	085	2	1	8	96.58	12.07	0.85	0.4	A+	0.89
B	086	2	1	8	36.25	4.53	1.17	-0.4	A-	0.89
B	087	2	1	8	142.85	17.86	1	0	A	0.67
B	088	2	1	8	334.31	41.79	1.16	-0.4	A-	0.45
B	089	2	1	8	83.6	10.45	1.01	0	A-	0.84
B	090	2	1	8	262.39	32.8	1.11	-0.2	A-	0.70
B	091	2	1	8	54.54	6.82	1.06	-0.1	A-	0.80
B	092	2	1	8	102.4	12.8	1.16	-0.3	A-	0.59
B	093	2	1	8	214.37	26.8	0.79	0.6	A+	0.85
B	094	2	1	8	34.07	4.26	0.96	0.1	A+	0.39
B	095	2	1	8	131.94	16.49	0.9	0.2	A+	0.61
B	096	2	1	8	58.32	7.29	0.85	0.4	A+	0.87
B	097	2	1	8	58.42	7.3	1.16	-0.3	A-	0.84
B	098	2	1	8	803.4	100.43	1.36	-0.7	A-	0.40
B	099	2	1	8	164.68	20.59	0.91	0.2	A+	0.35
B	100	2	1	8	91.85	11.48	1.23	-0.5	A-	0.85
B	101	2	1	8	62.71	7.84	1.13	-0.3	A-	0.55
B	102	2	1	8	334.25	41.78	0.9	0.2	A+	0.52
B	103	2	1	8	88.08	11.01	1.16	-0.4	A-	0.74
B	104	2	1	8	177.46	22.18	1.43	-0.8	A-	0.78
B	105	2	1	8	61.29	7.66	1.22	-0.5	A-	0.70
B	107	2	1	8	429.11	53.64	0.88	0.3	A+	0.48
B	108	2	1	8	164.22	20.53	0.98	0.1	A+	0.61
B	109	2	1	8	122.8	15.35	1.21	-0.4	A-	0.21

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 5 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
C	085	2	1	8	57.6	7.2	1.13	-0.3	A-	0.90
C	086	2	1	8	115.82	14.48	0.88	0.3	A+	0.88
C	087	2	1	8	42.58	5.32	1.03	-0.1	A-	0.82
C	088	2	1	8	25.91	3.24	1.08	-0.2	A-	0.88
C	089	2	1	8	90.05	11.26	1	0	A+	0.58
C	090	2	1	8	81.54	10.19	1.26	-0.5	A-	0.85
C	091	2	1	8	50.3	6.29	1.07	-0.2	A-	0.70
C	092	2	1	8	127.04	15.88	1.31	-0.6	A-	0.86
C	093	2	1	8	161.96	20.24	1.15	-0.3	A-	0.44
C	094	2	1	8	149.72	18.71	1.17	-0.4	A-	0.20
C	095	2	1	8	246.18	30.77	1.13	-0.3	A-	0.63
C	097	2	1	8	52.7	6.59	1.37	-0.7	A-	0.91
C	098	2	1	8	115.12	14.39	0.9	0.3	A+	0.65
C	099	2	1	8	60.84	7.6	1.07	-0.2	A-	0.82
C	100	2	1	8	237.57	29.7	1.17	-0.4	A-	0.35
C	101	2	1	8	74.02	9.25	1.08	-0.2	A-	0.71
C	102	2	1	8	172.16	21.52	0.88	0.3	A+	0.67
C	103	2	1	8	56.05	7.01	1.02	-0.1	A-	0.30
C	104	2	1	8	84.23	10.53	0.9	0.3	A+	0.81
C	105	2	1	8	86.39	10.8	0.97	0.1	A+	0.88
C	106	2	1	8	52.08	6.51	1.07	-0.2	A-	0.50
C	107	2	1	8	989.69	123.71	1.48	-0.9	A-	0.78
C	108	2	1	8	254.56	31.82	1.27	-0.6	A-	0.51
C	109	2	1	8	51.24	6.4	0.99	0	A+	0.88
D	084	2	1	8	140.23	17.53	1.27	-0.6	A-	0.85
D	085	2	1	8	111.87	13.98	0.8	0.5	A+	0.85
D	086	2	1	8	58.48	7.31	1.2	-0.4	A-	0.91
D	087	2	1	8	264.06	33.01	1.21	-0.4	A-	0.39
D	088	2	1	8	292.68	36.59	1.56	-1.1	B-	0.83
D	089	2	1	8	283.73	35.47	1.41	-0.8	A-	0.58
D	090	2	1	8	110.6	13.82	1.31	-0.6	A-	0.92
D	091	2	1	8	61.19	7.65	1.12	-0.3	A-	0.79
D	092	2	1	8	943.57	117.95	1.75	-1.3	B-	0.88
D	094	2	1	8	211.3	26.41	1.24	-0.5	A-	0.66
D	095	2	1	8	106.67	13.33	1.2	-0.4	A-	0.80
D	096	2	1	8	152.53	19.07	1.02	0	A-	0.70
D	097	2	1	8	238.03	29.75	0.96	0.1	A+	0.70
D	098	2	1	8	131.51	16.44	0.92	0.2	A+	0.80
D	099	2	1	8	268.15	33.52	1.37	-0.7	A-	0.75
D	100	2	1	8	276.22	34.53	1.25	-0.5	A-	0.66
D	101	2	1	8	117.11	14.64	0.97	0.1	A+	0.80
D	102	2	1	8	124.03	15.5	0.83	0.4	A+	0.48
D	103	2	1	8	194.56	24.32	1.06	-0.1	A-	0.65
D	104	2	1	8	128.44	16.06	1.19	-0.4	A-	0.69
D	105	2	1	8	209.15	26.14	0.92	0.2	A+	0.70
D	106	2	1	8	91.24	11.41	0.84	0.4	A+	0.69
D	108	2	1	8	30.45	3.81	1.01	0	A-	0.40
D	109	2	1	8	37.84	4.73	1.09	-0.2	A-	0.66

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 5 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
E	084	2	1	8	61.5	7.69	0.94	0.2	A+	0.87
E	085	2	1	8	23.75	2.97	0.86	0.3	A+	0.76
E	086	2	1	8	39.94	4.99	0.97	0.1	A+	0.30
E	087	2	1	8	25	3.13	1.01	0	A-	0.76
E	088	2	1	8	603.17	75.4	1.18	-0.4	A-	0.60
E	090	2	1	8	94.8	11.85	0.98	0	A+	0.89
E	091	2	1	8	197.94	24.74	1.17	-0.4	A-	0.87
E	092	2	1	8	78.45	9.81	0.87	0.3	A+	0.84
E	093	2	1	8	41.03	5.13	1.02	0	A-	0.90
E	094	2	1	8	427.98	53.5	1.62	-1.1	B-	0.79
E	095	2	1	8	93	11.63	1.01	0	A-	0.75
E	096	2	1	8	106.79	13.35	0.9	0.2	A+	0.75
E	097	2	1	8	35.25	4.41	0.8	0.5	A+	0.95
E	098	2	1	8	27.17	3.4	1.02	0	A-	0.85
E	099	2	1	8	76.4	9.55	1.1	-0.2	A-	0.43
E	100	2	1	8	119.81	14.98	1.17	-0.4	A-	0.63
E	101	2	1	8	142.58	17.82	0.8	0.5	A+	0.78
E	102	2	1	8	118.8	14.85	0.77	0.6	A+	0.77
E	103	2	1	8	53.23	6.65	1.02	0	A-	0.93
E	104	2	1	8	148.58	18.57	1.19	-0.4	A-	0.91
E	105	2	1	8	192.09	24.01	1.26	-0.5	A-	0.47
E	106	2	1	8	97.92	12.24	0.94	0.1	A+	0.56
E	108	2	1	8	214.34	26.79	1.28	-0.6	A-	0.81
E	109	2	1	8	116.62	14.58	1.09	-0.2	A-	0.79
F	084	2	1	8	47.54	5.94	1.1	-0.2	A-	0.88
F	085	2	1	8	485.34	60.67	1.32	-0.7	A-	0.41
F	086	2	1	8	107.89	13.49	1.11	-0.3	A-	0.36
F	087	2	1	8	46.41	5.8	1.22	-0.5	A-	0.88
F	088	2	1	8	92.88	11.61	1.14	-0.3	A-	0.55
F	089	2	1	8	142.08	17.76	1.06	-0.1	A-	0.60
F	090	2	1	8	136.83	17.1	1.07	-0.2	A-	0.77
F	091	2	1	8	93.04	11.63	1.21	-0.5	A-	0.81
F	092	2	1	8	65.83	8.23	1.16	-0.3	A-	0.75
F	094	2	1	8	453.83	56.73	0.86	0.4	A+	0.45
F	095	2	1	8	36.09	4.51	0.97	0.1	A+	0.63
F	096	2	1	8	123.4	15.43	1.19	-0.4	A-	0.21
F	097	2	1	8	171.57	21.45	0.95	0.1	A+	0.80
F	098	2	1	8	639.72	79.97	0.56	1.4	B+	0.83
F	099	2	1	8	144.98	18.12	0.98	0	A+	0.72
F	100	2	1	8	121.34	15.17	0.65	1	B+	0.88
F	101	2	1	8	537.82	67.23	1.23	-0.5	A-	0.53
F	102	2	1	8	33.28	4.16	0.94	0.2	A+	0.63
F	103	2	1	8	79.21	9.9	1.02	-0.1	A-	0.67
F	104	2	1	8	283.57	35.45	1.12	-0.3	A-	0.63
F	105	2	1	8	444.18	55.52	1.17	-0.4	A-	0.46
F	106	2	1	8	89.44	11.18	1	0	A+	0.42
F	107	2	1	8	417.83	52.23	1.09	-0.2	A-	0.70
F	108	2	1	8	306.57	38.32	1.05	-0.1	A-	0.60
F	109	2	1	8	73.7	9.21	1.12	-0.3	A-	0.31

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 5 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
G	084	2	1	8	90.92	11.36	0.85	0.4	A+	0.68
G	085	2	1	8	238.59	29.82	1.27	-0.6	A-	0.57
G	086	2	1	8	153.6	19.2	0.88	0.3	A+	0.56
G	087	2	1	8	57.68	7.21	1.19	-0.4	A-	0.81
G	088	2	1	8 1	184.46	148.06	1.22	-0.5	A-	0.78
G	090	2	1	8	337.95	42.24	1.05	-0.1	A-	0.37
G	091	2	1	8	197.48	24.68	1.34	-0.7	A-	0.36
G	092	2	1	8	312.47	39.06	1.24	-0.5	A-	0.47
G	093	2	1	8	244.4	30.55	0.81	0.5	A+	0.82
G	094	2	1	8	337.4	42.18	0.73	0.7	A+	0.54
G	096	2	1	8	41.02	5.13	0.96	0.1	A+	0.61
G	098	2	1	8	27.55	3.44	1.07	-0.2	A-	0.89
G	099	2	1	8	147.21	18.4	0.92	0.2	A+	0.85
G	100	2	1	8	111.58	13.95	0.86	0.4	A+	0.82
G	101	2	1	8	28.86	3.61	1.03	-0.1	A-	0.86
G	102	2	1	8	325.12	40.64	0.91	0.2	A+	0.60
G	103	2	1	8	92.28	11.53	1.25	-0.5	A-	0.83
G	104	2	1	8	111.13	13.89	1.05	-0.1	A-	0.70
G	105	2	1	8	92.02	11.5	1.33	-0.7	A-	0.84
G	106	2	1	8	97.02	12.13	1.15	-0.3	A-	0.44
G	107	2	1	8	279.02	34.88	1.22	-0.5	A-	0.21
G	108	2	1	8	251.15	31.39	1.16	-0.3	A-	0.61
H	084	2	1	8	178.32	22.29	0.67	0.9	A+	0.88
H	085	2	1	8	157.92	19.74	1.05	-0.1	A-	0.58
H	086	2	1	8	57	7.13	0.94	0.1	A+	0.46
H	087	2	1	8	170.69	21.34	1.28	-0.6	A-	0.70
H	088	2	1	8	229.19	28.65	1.23	-0.5	A-	0.64
H	090	2	1	8	220.25	27.53	1	0	A+	0.67
H	091	2	1	8	501.71	62.71	1.25	-0.5	A-	0.46
H	092	2	1	8	186.34	23.29	1.09	-0.2	A-	0.49
H	093	2	1	8	132.32	16.54	0.8	0.5	A+	0.57
H	094	2	1	8	261.71	32.71	0.8	0.5	A+	0.39
H	095	2	1	8	552.2	69.02	0.75	0.7	A+	0.53
H	096	2	1	8	231.87	28.98	0.86	0.4	A+	0.36
H	097	2	1	8	122.19	15.27	1.17	-0.4	A-	0.84
H	098	2	1	8	308.92	38.62	0.9	0.2	A+	0.82
H	099	2	1	8	116.47	14.56	1.01	0	A-	0.90
H	100	2	1	8	132.36	16.54	1.06	-0.1	A-	0.42
H	101	2	1	8	157.58	19.7	1.41	-0.8	A-	0.79
H	102	2	1	8	656.1	82.01	1.57	-1.1	B-	0.57
H	103	2	1	8	67.5	8.44	1.08	-0.2	A-	0.90
H	104	2	1	8	147.72	18.47	1.07	-0.2	A-	0.76
H	105	2	1	8	370.56	46.32	1.53	-1	B-	0.82
H	107	2	1	8	171.28	21.41	1.26	-0.5	A-	0.67
H	108	2	1	8	175.62	21.95	1.34	-0.7	A-	0.77
H	109	2	1	8	359.81	44.98	0.88	0.3	A+	0.66

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 5 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
I	084	2	1	8	114.1	14.26	0.89	0.3	A+	0.96
I	085	2	1	8	160.19	20.02	1.23	-0.5	A-	0.86
I	086	2	1	8	110.91	13.86	1.03	-0.1	A-	0.43
I	087	2	1	8	229.87	28.73	1.45	-0.9	A-	0.66
I	088	2	1	8	272.43	34.05	0.67	0.9	A+	0.77
I	089	2	1	8	209.37	26.17	0.83	0.4	A+	0.78
I	090	2	1	8	93.84	11.73	1.22	-0.5	A-	0.95
I	091	2	1	8	42.79	5.35	1.2	-0.4	A-	0.93
I	092	2	1	8	285.05	35.63	1.34	-0.7	A-	0.49
I	093	2	1	8	132.82	16.6	0.9	0.2	A+	0.57
I	095	2	1	8	334.97	41.87	1.14	-0.3	A-	0.81
I	096	2	1	8	48.1	6.01	0.91	0.2	A+	0.74
I	097	2	1	8	129.34	16.17	0.86	0.3	A+	0.77
I	098	2	1	8	242.62	30.33	1.12	-0.3	A-	0.82
I	099	2	1	8	265.83	33.23	1.15	-0.3	A-	0.51
I	100	2	1	8	334.05	41.76	1.27	-0.6	A-	0.51
I	101	2	1	8	173.31	21.66	0.81	0.5	A+	0.66
I	102	2	1	8 1	101.46	137.68	1.25	-0.5	A-	0.44
I	103	2	1	8	693.1	86.64	1.47	-0.9	A-	0.35
I	104	2	1	8	42.94	5.37	0.88	0.3	A+	0.78
I	105	2	1	8	131.71	16.46	1.01	0	A-	0.58
I	106	2	1	8	194.56	24.32	0.85	0.4	A+	0.77
I	107	2	1	8	180.49	22.56	0.85	0.4	A+	0.50
I	108	2	1	8	72.37	9.05	1.04	-0.1	A-	0.65
I	109	2	1	8	427.96	53.49	0.75	0.7	A+	0.50
J	084	2	1	8	247.63	30.95	1.13	-0.3	A-	0.82
J	085	2	1	8	114.96	14.37	0.76	0.7	A+	0.83
J	086	2	1	8	73.21	9.15	1.24	-0.5	A-	0.73
J	087	2	1	8	102.92	12.86	0.85	0.4	A+	0.88
J	088	2	1	8	101.06	12.63	1.17	-0.4	A-	0.54
J	089	2	1	8	62.38	7.8	0.89	0.3	A+	0.65
J	090	2	1	8	128.67	16.08	0.97	0.1	A+	0.70
J	091	2	1	8	170.7	21.34	1.11	-0.3	A-	0.64
J	092	2	1	8	248.53	31.07	1.25	-0.5	A-	0.49
J	093	2	1	8	174.66	21.83	1.01	0	A-	0.45
J	094	2	1	8	196.79	24.6	1.1	-0.2	A-	0.74
J	095	2	1	8	264.21	33.03	1.14	-0.3	A-	0.64
J	096	2	1	8	107.63	13.45	1.23	-0.5	A-	0.35
J	097	2	1	8	31.9	3.99	1.03	-0.1	A-	0.76
J	098	2	1	8	47.08	5.88	1.05	-0.1	A-	0.87
J	099	2	1	8	127.26	15.91	1.24	-0.5	A-	0.87
J	100	2	1	8	167.21	20.9	1.13	-0.3	A-	0.71
J	101	2	1	8	113.69	14.21	1.15	-0.3	A-	0.46
J	102	2	1	8	17.01	2.13	0.91	0.2	A+	0.80
J	103	2	1	8	82.29	10.29	0.99	0	A+	0.69
J	104	2	1	8	80.67	10.08	0.99	0	A+	0.76
J	105	2	1	8	217.55	27.19	1.22	-0.5	A-	0.58
J	106	2	1	8	80.48	10.06	0.87	0.3	A+	0.83
J	107	2	1	8	198.14	24.77	1.17	-0.4	A-	0.26
J	108	2	1	8	135.71	16.96	0.84	0.4	A+	0.58
J	109	2	1	8	44.01	5.5	0.89	0.3	A+	0.87

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 5 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
K	084	2	1	8	72.1	9.01	1.33	-0.7	A-	0.93
K	085	2	1	8	118.39	14.8	0.86	0.4	A+	0.67
K	086	2	1	8	82.79	10.35	0.82	0.5	A+	0.85
K	087	2	1	8	305.31	38.16	1.18	-0.4	A-	0.36
K	088	2	1	8	60.94	7.62	0.88	0.3	A+	0.72
K	089	2	1	8	193.92	24.24	1	0	A+	0.70
K	090	2	1	8	146.92	18.37	1.18	-0.4	A-	0.31
K	091	2	1	8	80.88	10.11	1.14	-0.3	A-	0.84
K	092	2	1	8	28.81	3.6	1.29	-0.6	A-	0.91
K	093	2	1	8	59.07	7.38	1.11	-0.3	A-	0.51
K	094	2	1	8	276.41	34.55	1.51	-1	A-	0.80
K	095	2	1	8	43.53	5.44	1.08	-0.2	A-	0.57
K	096	2	1	8	57.06	7.13	0.98	0.1	A+	0.90
K	097	2	1	8	54.01	6.75	0.93	0.2	A+	0.70
K	098	2	1	8	86.56	10.82	1.12	-0.3	A-	0.57
K	099	2	1	8	304.85	38.11	0.85	0.4	A+	0.56
K	100	2	1	8	37.41	4.68	1.07	-0.2	A-	0.79
K	101	2	1	8	174.41	21.8	1.11	-0.3	A-	0.76
K	103	2	1	8	299.14	37.39	1.18	-0.4	A-	0.36
K	104	2	1	8	266.42	33.3	1.42	-0.8	A-	0.37
K	105	2	1	8	137.27	17.16	1.16	-0.3	A-	0.47
K	106	2	1	8	108.44	13.56	0.9	0.2	A+	0.80
K	107	2	1	8	661.92	82.74	0.6	1.2	B+	0.54
K	109	2	1	8	92.11	11.51	0.94	0.1	A+	0.58
L	084	2	1	8	66.34	8.29	0.84	0.4	A+	0.74
L	085	2	1	8	100.52	12.56	1.07	-0.2	A-	0.83
L	086	2	1	8	358.81	44.85	1.17	-0.4	A-	0.75
L	087	2	1	8	154.02	19.25	1.12	-0.3	A-	0.67
L	088	2	1	8	100.13	12.52	0.89	0.3	A+	0.83
L	089	2	1	8	69.69	8.71	0.91	0.2	A+	0.48
L	090	2	1	8	261.26	32.66	1.29	-0.6	A-	0.70
L	091	2	1	8	650.43	81.3	1.21	-0.4	A-	0.72
L	092	2	1	8	452.11	56.51	0.92	0.2	A+	0.68
L	093	2	1	8	89.32	11.17	0.91	0.2	A+	0.71
L	095	2	1	8	120.27	15.03	0.94	0.1	A+	0.43
L	096	2	1	8	239.03	29.88	1.11	-0.3	A-	0.68
L	097	2	1	8	150.04	18.75	0.67	0.9	A+	0.88
L	098	2	1	8	178.05	22.26	1.04	-0.1	A-	0.56
L	099	2	1	8	220.76	27.6	1.08	-0.2	A-	0.46
L	100	2	1	8	168.59	21.07	1.14	-0.3	A-	0.68
L	101	2	1	8	233.57	29.2	1.27	-0.6	A-	0.64
L	103	2	1	8	176.46	22.06	0.95	0.1	A+	0.65
L	104	2	1	8	476.42	59.55	1.24	-0.5	A-	0.45
L	105	2	1	8	624.2	78.03	1.24	-0.5	A-	0.48
L	106	2	1	8	637.25	79.66	0.65	1	B+	0.54
L	107	2	1	8	86.39	10.8	0.85	0.4	A+	0.40
L	108	2	1	8	172.33	21.54	0.81	0.5	A+	0.48
L	109	2	1	8	24.42	3.05	0.93	0.2	A+	0.36

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
A	094	1	1	8	Inf	Inf	0.92	0.2	A+	0.41
A	095	2	1	8	148.24	18.53	0.86	0.4	A+	0.80
A	096	2	1	8	98.76	12.35	0.9	0.2	A+	0.77
A	097	2	1	8	139.83	17.48	0.9	0.2	A+	0.25
A	098	2	1	8	144.79	18.1	1.25	-0.5	A-	0.87
A	099	2	1	8	50.63	6.33	1.06	-0.1	A-	0.80
A	100	2	1	8	92.88	11.61	1.02	-0.1	A-	0.54
A	101	2	1	8	57.17	7.15	1.21	-0.5	A-	0.77
A	102	2	1	8	148.94	18.62	1.09	-0.2	A-	0.42
A	103	2	1	8	48.76	6.09	1	0	A	0.77
A	104	2	1	8	176.4	22.05	0.76	0.6	A+	0.70
A	105	2	1	8	173.06	21.63	1.34	-0.7	A-	0.39
A	106	2	1	8	84.28	10.53	1.35	-0.7	A-	0.83
A	107	2	1	8	346.88	43.36	0.69	0.9	A+	0.56
A	108	2	1	8	49.56	6.19	0.9	0.3	A+	0.68
A	109	2	1	8	162.27	20.28	1.36	-0.7	A-	0.87
A	111	2	1	8	220.14	27.52	1.22	-0.5	A-	0.63
A	112	2	1	8	58.72	7.34	1.06	-0.1	A-	0.82
A	113	2	1	8	126.29	15.79	0.99	0	A+	0.86
A	114	2	1	8	15.46	1.93	1.01	0	A-	0.72
A	115	2	1	8	70.73	8.84	0.99	0	A+	0.42
A	116	2	1	8	63.32	7.91	1.21	-0.5	A-	0.81
A	117	2	1	8	48.84	6.1	1.06	-0.1	A-	0.65
A	118	2	1	8	105.2	13.15	0.86	0.3	A+	0.70
A	119	2	1	8	80.05	10.01	1.12	-0.3	A-	0.77
A	120	2	1	8	93.34	11.67	1.16	-0.3	A-	0.78
A	122	2	1	8	199.89	24.99	1.2	-0.4	A-	0.66
A	123	2	1	8	95.94	11.99	0.95	0.1	A+	0.55
A	124	2	1	8	200.37	25.05	1.1	-0.2	A-	0.71
A	125	2	1	8	115.94	14.49	0.9	0.2	A+	0.61
A	126	2	1	8	99.88	12.48	1.08	-0.2	A-	0.81
A	127	2	1	8	109.76	13.72	0.77	0.6	A+	0.82
A	128	2	1	8	43.52	5.44	1.2	-0.4	A-	0.80
A	129	2	1	8	485.26	60.66	0.75	0.7	A+	0.46
B	094	2	1	8	199.24	24.91	0.73	0.7	A+	0.36
B	095	2	1	8	144.38	18.05	0.76	0.7	A+	0.66
B	096	2	1	8	284.62	35.58	1.47	-0.9	A-	0.63
B	097	2	1	8	271.71	33.96	1.45	-0.9	A-	0.86
B	098	2	1	8	319.45	39.93	1.36	-0.7	A-	0.54
B	099	2	1	8	316.28	39.53	1.22	-0.5	A-	0.47
B	100	2	1	8	232.95	29.12	1.19	-0.4	A-	0.53
B	101	2	1	8	227.25	28.41	1.27	-0.6	A-	0.62
B	102	2	1	8	83.08	10.38	0.98	0	A+	0.82
B	103	2	1	8	122.95	15.37	0.98	0.1	A+	0.46
B	104	2	1	8	833.77	104.22	1.29	-0.6	A-	0.59
B	105	2	1	8	112.17	14.02	1.06	-0.1	A-	0.51
B	106	2	1	8	220.71	27.59	0.7	0.8	A+	0.61
B	107	2	1	8	499.28	62.41	0.93	0.2	A+	0.68
B	108	2	1	8	82.93	10.37	1.01	0	A-	0.69
B	109	2	1	8	72.7	9.09	0.95	0.1	A+	0.35
B	110	2	1	8	518.65	64.83	1.45	-0.9	A-	0.65



**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
B	111	2	1	8	231.31	28.91	0.7	0.9	A+	0.81
B	112	2	1	8	67.42	8.43	0.97	0.1	A+	0.80
B	113	2	1	8	310.82	38.85	1.34	-0.7	A-	0.75
B	114	2	1	8	158.75	19.84	1.27	-0.6	A-	0.64
B	115	2	1	8	30.05	3.76	1.09	-0.2	A-	0.29
B	116	2	1	8	86.27	10.78	1.1	-0.2	A-	0.82
B	117	2	1	8	88.5	11.06	1.23	-0.5	A-	0.82
B	118	2	1	8	87.93	10.99	1.02	-0.1	A-	0.80
B	119	2	1	8	222.45	27.81	0.67	1	A+	0.74
B	120	2	1	8	968.92	121.11	0.92	0.2	A+	0.49
B	121	2	1	8	213.09	26.64	0.84	0.4	A+	0.54
B	122	2	1	8	225.99	28.25	0.82	0.5	A+	0.49
B	123	2	1	8	17.39	2.17	1.07	-0.2	A-	0.69
B	124	2	1	8	315.83	39.48	1.23	-0.5	A-	0.67
B	125	2	1	8	279.8	34.98	1.17	-0.4	A-	0.60
B	126	2	1	8	160.66	20.08	0.99	0	A+	0.66
B	127	2	1	8	64.19	8.02	0.98	0	A+	0.70
B	128	2	1	8	517.85	64.73	1.01	0	A-	0.46
B	129	2	1	8	195.28	24.41	1.15	-0.3	A-	0.40
C	094	2	1	8	96.65	12.08	1.16	-0.3	A-	0.44
C	095	2	1	8	160.37	20.05	0.94	0.1	A+	0.72
C	096	2	1	8	91.16	11.39	1.03	-0.1	A-	0.73
C	097	2	1	8	184.93	23.12	0.77	0.6	A+	0.64
C	098	2	1	8	80.54	10.07	0.9	0.2	A+	0.77
C	099	2	1	8	104.99	13.12	1.63	-1.1	B-	0.93
C	100	2	1	8	173.37	21.67	0.96	0.1	A+	0.73
C	101	2	1	8	108.49	13.56	0.81	0.5	A+	0.79
C	102	2	1	8	37.35	4.67	1.06	-0.1	A-	0.92
C	103	2	1	8	122.56	15.32	0.91	0.2	A+	0.80
C	104	2	1	8	65.67	8.21	0.97	0.1	A+	0.76
C	105	2	1	8	772.26	96.53	0.98	0	A+	0.44
C	106	2	1	8	73.65	9.21	0.86	0.4	A+	0.55
C	107	2	1	8	197.99	24.75	0.81	0.5	A+	0.84
C	108	2	1	8	182.08	22.76	1.05	-0.1	A-	0.84
C	109	2	1	8	109.98	13.75	0.86	0.4	A+	0.71
C	110	2	1	8	23.28	2.91	1.01	0	A-	0.74
C	111	2	1	8	124.82	15.6	1.25	-0.5	A-	0.74
C	112	2	1	8	57.84	7.23	0.84	0.4	A+	0.74
C	113	2	1	8	70.19	8.77	1.22	-0.5	A-	0.72
C	114	2	1	8	161.42	20.18	1.17	-0.4	A-	0.83
C	115	2	1	8	25.96	3.25	1.06	-0.1	A-	0.64
C	116	2	1	8	206.04	25.75	0.76	0.7	A+	0.69
C	117	2	1	8	111.48	13.93	0.8	0.5	A+	0.78
C	118	2	1	8	38.19	4.77	0.9	0.2	A+	0.80
C	119	2	1	8	206.43	25.8	0.82	0.5	A+	0.54
C	120	2	1	8	288.2	36.02	1.39	-0.8	A-	0.72
C	121	2	1	8	64.61	8.08	1.21	-0.5	A-	0.86
C	122	2	1	8	58.48	7.31	1.03	-0.1	A-	0.82
C	123	2	1	8	1505.68	188.21	1.36	-0.7	A-	0.48
C	124	2	1	8	174.08	21.76	0.79	0.5	A+	0.39
C	126	2	1	8	291.22	36.4	1.25	-0.5	A-	0.47

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
C	127	2	1	8	153.18	19.15	1.22	-0.5	A-	0.74
C	128	2	1	8	83.68	10.46	1.06	-0.1	A-	0.91
C	129	2	1	8	495.63	61.95	1.17	-0.4	A-	0.48
D	094	2	1	8	815.52	101.94	2.18	-1.8	C-	0.46
D	095	2	1	8	104.79	13.1	0.94	0.1	A+	0.78
D	096	2	1	8	310.87	38.86	0.79	0.6	A+	0.26
D	097	2	1	8	651.61	81.45	0.5	1.6	C+	0.74
D	098	2	1	8	221.7	27.71	1.04	-0.1	A-	0.77
D	099	2	1	8	166.17	20.77	1.13	-0.3	A-	0.73
D	100	2	1	8	159.27	19.91	1.12	-0.3	A-	0.85
D	101	2	1	8	258.82	32.35	0.94	0.2	A+	0.67
D	102	2	1	8	684.91	85.61	1.91	-1.5	C-	0.81
D	103	2	1	8	512.73	64.09	1.25	-0.5	A-	0.72
D	104	2	1	8	75.69	9.46	1.18	-0.4	A-	0.80
D	105	2	1	8	312.84	39.11	0.97	0.1	A+	0.50
D	106	2	1	8	23.07	2.88	1.01	0	A-	0.63
D	107	2	1	8	197.28	24.66	1.21	-0.5	A-	0.62
D	108	2	1	8	104.47	13.06	0.87	0.3	A+	0.56
D	109	2	1	8	99.43	12.43	0.81	0.5	A+	0.37
D	110	2	1	8	586.71	73.34	0.55	1.4	B+	0.57
D	111	2	1	8	434.01	54.25	0.81	0.5	A+	0.59
D	112	2	1	8	199.16	24.89	1.15	-0.3	A-	0.66
D	113	2	1	8	239.53	29.94	0.97	0.1	A+	0.33
D	114	2	1	8	189.95	23.74	0.97	0.1	A+	0.64
D	116	2	1	8	179.6	22.45	0.91	0.2	A+	0.61
D	117	2	1	8	163.41	20.43	0.94	0.2	A+	0.75
D	118	2	1	8	186.27	23.28	1.14	-0.3	A-	0.71
D	119	2	1	8	94.96	11.87	0.9	0.3	A+	0.45
D	120	2	1	8	198.06	24.76	0.86	0.3	A+	0.65
D	121	2	1	8	289.23	36.15	0.92	0.2	A+	0.60
D	122	2	1	8	67.65	8.46	0.99	0	A+	0.79
D	123	2	1	8	171.27	21.41	1.08	-0.2	A-	0.35
D	124	2	1	8	105.41	13.18	0.83	0.4	A+	0.72
D	125	2	1	8	72.79	9.1	0.93	0.2	A+	0.64
D	127	2	1	8	260.92	32.62	1.32	-0.6	A-	0.56
D	128	2	1	8	406.41	50.8	0.83	0.5	A+	0.65
D	129	2	1	8	200.24	25.03	0.66	1	A+	0.71
E	094	2	1	8	108.23	13.53	1.12	-0.3	A-	0.85
E	095	2	1	8	57.77	7.22	1.16	-0.3	A-	0.86
E	096	2	1	8	70.01	8.75	1.01	0	A-	0.74
E	097	2	1	8	20.39	2.55	0.98	0	A+	0.41
E	098	2	1	8	144.68	18.08	1.3	-0.6	A-	0.83
E	099	2	1	8	66.62	8.33	1.18	-0.4	A-	0.69
E	100	2	1	8	170.14	21.27	0.77	0.6	A+	0.71
E	101	2	1	8	55.1	6.89	0.99	0	A+	0.81
E	102	2	1	8	85.25	10.66	1.17	-0.4	A-	0.80
E	104	2	1	8	271.61	33.95	1.27	-0.6	A-	0.71
E	105	2	1	8	764.17	95.52	1.08	-0.2	A-	0.60
E	106	2	1	8	68.33	8.54	1.18	-0.4	A-	0.73
E	107	2	1	8	413.91	51.74	0.96	0.1	A+	0.64

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
E	108	2	1	8	324.05	40.51	1.13	-0.3	A-	0.84
E	109	2	1	8	136.05	17.01	0.78	0.6	A+	0.86
E	110	2	1	8	247.57	30.95	1.4	-0.8	A-	0.82
E	111	2	1	8	354.03	44.25	0.79	0.6	A+	0.48
E	112	2	1	8	335.23	41.9	0.8	0.5	A+	0.78
E	113	2	1	8	39.77	4.97	1.14	-0.3	A-	0.87
E	114	2	1	8	140.56	17.57	0.89	0.3	A+	0.45
E	115	2	1	8	972.25	121.53	1.03	-0.1	A-	0.61
E	116	2	1	8	98.72	12.34	0.97	0.1	A+	0.63
E	117	2	1	8	199.69	24.96	1.16	-0.4	A-	0.44
E	118	2	1	8	201.18	25.15	1.2	-0.4	A-	0.64
E	119	2	1	8	78.71	9.84	0.92	0.2	A+	0.79
E	120	2	1	8	111.51	13.94	0.99	0	A+	0.82
E	121	2	1	8	79.96	10	0.93	0.2	A+	0.60
E	122	2	1	8	251.65	31.46	0.74	0.7	A+	0.66
E	123	2	1	8	456.33	57.04	0.92	0.2	A+	0.34
E	124	2	1	8	18.34	2.29	0.98	0.1	A+	0.76
E	125	2	1	8	92.79	11.6	1.08	-0.2	A-	0.56
E	126	2	1	8	96.44	12.05	0.98	0	A+	0.84
E	127	2	1	8	83.88	10.49	0.96	0.1	A+	0.66
E	128	2	1	8	131.69	16.46	1.15	-0.3	A-	0.82
E	129	2	1	8	478.11	59.76	0.8	0.5	A+	0.54
F	094	2	1	8	55.1	6.89	0.82	0.5	A+	0.82
F	095	2	1	8	211.21	26.4	1.35	-0.7	A-	0.76
F	096	2	1	8	262.46	32.81	1.25	-0.5	A-	0.67
F	097	2	1	8	232.23	29.03	1.05	-0.1	A-	0.29
F	098	2	1	8	128.45	16.06	0.96	0.1	A+	0.83
F	099	2	1	8	72.97	9.12	1.06	-0.1	A-	0.83
F	100	2	1	8	122.9	15.36	1.08	-0.2	A-	0.83
F	101	2	1	8	299.72	37.47	0.68	0.9	A+	0.76
F	102	2	1	8	221.28	27.66	0.92	0.2	A+	0.50
F	103	2	1	8	315.53	39.44	0.69	0.9	A+	0.54
F	104	2	1	8	308.23	38.53	0.87	0.3	A+	0.48
F	105	2	1	8	79.91	9.99	0.98	0.1	A+	0.70
F	106	2	1	8	386.35	48.29	1.28	-0.6	A-	0.71
F	107	2	1	8	191.71	23.96	1.24	-0.5	A-	0.63
F	108	2	1	8	83.45	10.43	0.91	0.2	A+	0.68
F	109	2	1	8	102.17	12.77	0.9	0.3	A+	0.71
F	110	2	1	8	88.77	11.1	0.97	0.1	A+	0.46
F	111	2	1	8	315.1	39.39	1.09	-0.2	A-	0.41
F	112	2	1	8	190.29	23.79	0.71	0.8	A+	0.78
F	113	2	1	8	38.48	4.81	1.06	-0.1	A-	0.89
F	114	2	1	8	320.99	40.12	0.57	1.3	B+	0.79
F	115	2	1	8	127.22	15.9	1.04	-0.1	A-	0.40
F	116	2	1	8	193.02	24.13	0.73	0.8	A+	0.80
F	117	2	1	8	21.99	2.75	0.95	0.1	A+	0.77
F	118	2	1	8	123.7	15.46	1.04	-0.1	A-	0.78
F	120	2	1	8	90.19	11.27	1.07	-0.2	A-	0.78
F	121	2	1	8	198.23	24.78	1.09	-0.2	A-	0.86
F	122	2	1	8	109.43	13.68	0.95	0.1	A+	0.85
F	123	2	1	8	45.02	5.63	1.02	0	A-	0.49

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
F	124	2	1	8	584.52	73.06	1.41	-0.8	A-	0.75
F	125	2	1	8	108.65	13.58	1.08	-0.2	A-	0.31
F	126	2	1	8	774.15	96.77	1.33	-0.7	A-	0.80
F	127	2	1	8	164.65	20.58	0.91	0.2	A+	0.62
F	128	2	1	8	261.43	32.68	1.11	-0.2	A-	0.76
F	129	2	1	8	136.23	17.03	0.89	0.3	A+	0.73
G	094	2	1	8	94.32	11.79	1.1	-0.2	A-	0.32
G	095	2	1	8	681.15	85.14	0.56	1.4	B+	0.62
G	096	2	1	8	57.65	7.21	0.81	0.5	A+	0.91
G	097	2	1	8	295.62	36.95	1.26	-0.6	A-	0.52
G	098	2	1	8	67.48	8.43	0.84	0.4	A+	0.86
G	099	2	1	8	91.42	11.43	0.91	0.2	A+	0.77
G	100	2	1	8	210.11	26.26	0.9	0.2	A+	0.23
G	101	2	1	8	69.66	8.71	0.96	0.1	A+	0.66
G	102	2	1	8	133.13	16.64	0.8	0.5	A+	0.82
G	103	2	1	8	37.6	4.7	1.37	-0.7	A-	0.94
G	104	2	1	8	99.35	12.42	1.2	-0.4	A-	0.29
G	105	2	1	8	208.78	26.1	1.19	-0.4	A-	0.34
G	106	2	1	8	155.05	19.38	1.35	-0.7	A-	0.87
G	107	2	1	8	119.92	14.99	0.79	0.6	A+	0.88
G	108	2	1	8	261.62	32.7	0.9	0.2	A+	0.66
G	109	2	1	8	51.08	6.39	0.93	0.2	A+	0.92
G	110	2	1	8	295.09	36.89	0.98	0.1	A+	0.85
G	111	2	1	8	107.37	13.42	0.87	0.3	A+	0.80
G	112	2	1	8	282.29	35.29	0.99	0	A+	0.44
G	113	2	1	8	100.98	12.62	1.05	-0.1	A-	0.70
G	114	2	1	8	172.39	21.55	0.93	0.2	A+	0.70
G	115	2	1	8	296.73	37.09	0.7	0.8	A+	0.62
G	116	2	1	8	41.14	5.14	0.94	0.1	A+	0.75
G	117	2	1	8	127.98	16	1.37	-0.7	A-	0.91
G	118	2	1	8	429.06	53.63	1.18	-0.4	A-	0.71
G	119	2	1	8	111.49	13.94	0.95	0.1	A+	0.80
G	120	2	1	8	96.23	12.03	1.09	-0.2	A-	0.90
G	121	2	1	8	222.45	27.81	0.82	0.5	A+	0.77
G	122	2	1	8	57.18	7.15	0.89	0.3	A+	0.76
G	123	2	1	8	145.3	18.16	0.93	0.2	A+	0.44
G	124	2	1	8	172.61	21.58	0.83	0.4	A+	0.56
G	125	2	1	8	51.02	6.38	0.92	0.2	A+	0.83
G	126	2	1	8	53	6.63	1.03	-0.1	A-	0.85
G	127	2	1	8	174.12	21.76	0.75	0.7	A+	0.69
G	128	2	1	8	206.66	25.83	0.94	0.2	A+	0.73
G	129	2	1	8	1083.31	135.41	1.3	-0.6	A-	0.70
H	094	2	1	8	220.74	27.59	0.74	0.7	A+	0.54
H	095	2	1	8	126.21	15.78	1.15	-0.3	A-	0.78
H	096	2	1	8	150.79	18.85	0.64	1	B+	0.86
H	097	2	1	8	78.45	9.81	0.94	0.2	A+	0.59
H	098	2	1	8	47.79	5.97	1.12	-0.3	A-	0.81
H	099	2	1	8	162.65	20.33	0.84	0.4	A+	0.70
H	100	2	1	8	71.81	8.98	0.81	0.5	A+	0.88
H	101	2	1	8	356.24	44.53	1.21	-0.5	A-	0.53

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
H	102	2	1	8	87.37	10.92	0.97	0.1	A+	0.59
H	103	2	1	8	249.36	31.17	1.04	-0.1	A-	0.53
H	104	2	1	8	541.78	67.72	0.45	1.9	C+	0.86
H	105	2	1	8	30.67	3.83	1.06	-0.1	A-	0.50
H	106	2	1	8	179.64	22.45	1.02	0	A-	0.80
H	107	2	1	8	865.02	108.13	0.49	1.7	C+	0.63
H	108	2	1	8	177.38	22.17	0.92	0.2	A+	0.59
H	109	2	1	8	206.23	25.78	1.19	-0.4	A-	0.89
H	111	2	1	8	383	47.87	0.84	0.4	A+	0.59
H	112	2	1	8	447.47	55.93	1.55	-1	B-	0.44
H	113	2	1	8	89.26	11.16	0.83	0.4	A+	0.78
H	114	2	1	8	69.2	8.65	1.09	-0.2	A-	0.29
H	115	2	1	8	424.37	53.05	0.64	1	B+	0.73
H	116	2	1	8	259.91	32.49	1.09	-0.2	A-	0.75
H	117	2	1	8	126.45	15.81	1.14	-0.3	A-	0.70
H	118	2	1	8	115.56	14.44	1.16	-0.3	A-	0.83
H	119	2	1	8	63.86	7.98	1.13	-0.3	A-	0.65
H	120	2	1	8	588.13	73.52	1.67	-1.2	B-	0.77
H	121	2	1	8	98.26	12.28	1.1	-0.2	A-	0.71
H	122	2	1	8	89.47	11.18	1.1	-0.2	A-	0.80
H	123	2	1	8	151.24	18.9	1.08	-0.2	A-	0.51
H	124	2	1	8	99.68	12.46	0.92	0.2	A+	0.58
H	125	2	1	8	103.32	12.92	1.08	-0.2	A-	0.61
H	126	2	1	8	109.52	13.69	0.9	0.3	A+	0.57
H	127	2	1	8	426.23	53.28	0.77	0.6	A+	0.35
H	128	2	1	8	468.45	58.56	0.61	1.1	B+	0.53
H	129	2	1	8	331.59	41.45	0.75	0.7	A+	0.59
I	094	2	1	8	96.82	12.1	0.9	0.2	A+	0.80
I	095	2	1	8	123.13	15.39	0.92	0.2	A+	0.90
I	096	2	1	8	150.36	18.8	0.82	0.5	A+	0.46
I	097	2	1	8	229.15	28.64	1.17	-0.4	A-	0.61
I	098	2	1	8	117.72	14.72	0.84	0.4	A+	0.64
I	099	2	1	8	192.16	24.02	1.24	-0.5	A-	0.44
I	100	2	1	8	818.02	102.25	1.57	-1.1	B-	0.65
I	101	2	1	8	100.19	12.52	1.1	-0.2	A-	0.79
I	102	2	1	8	236.77	29.6	0.84	0.4	A+	0.84
I	103	2	1	8	156.46	19.56	0.93	0.2	A+	0.60
I	104	2	1	8	115.26	14.41	0.77	0.6	A+	0.67
I	105	2	1	8	76.35	9.54	0.97	0.1	A+	0.47
I	106	2	1	8	28.36	3.54	1.01	0	A-	0.79
I	107	2	1	8	47.42	5.93	1.07	-0.2	A-	0.54
I	108	2	1	8	59.12	7.39	0.91	0.2	A+	0.86
I	109	2	1	8	108.11	13.51	0.97	0.1	A+	0.66
I	110	2	1	8	59.85	7.48	1.09	-0.2	A-	0.85
I	111	2	1	8	299.76	37.47	0.69	0.9	A+	0.56
I	112	2	1	8	192.9	24.11	0.9	0.3	A+	0.41
I	113	2	1	8	95.84	11.98	0.81	0.5	A+	0.80
I	114	2	1	8	141.43	17.68	0.75	0.7	A+	0.77
I	115	2	1	8	104.37	13.05	0.93	0.2	A+	0.26
I	116	2	1	8	39.94	4.99	1.11	-0.2	A-	0.84
I	117	2	1	8	25.69	3.21	1.06	-0.1	A-	0.79

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
I	118	2	1	8	203.69	25.46	0.99	0	A+	0.55
I	119	2	1	8	319.65	39.96	1.22	-0.5	A-	0.75
I	120	2	1	8	137.54	17.19	0.94	0.1	A+	0.34
I	121	2	1	8	35.31	4.41	0.92	0.2	A+	0.77
I	122	2	1	8	414.65	51.83	0.75	0.7	A+	0.70
I	123	2	1	8	421.46	52.68	1.34	-0.7	A-	0.38
I	124	2	1	8	188.84	23.61	1.44	-0.9	A-	0.83
I	125	2	1	8	145.42	18.18	0.75	0.7	A+	0.55
I	126	2	1	8	45.45	5.68	0.86	0.3	A+	0.67
I	127	2	1	8	29.97	3.75	0.95	0.1	A+	0.85
I	129	2	1	8	548.62	68.58	1.4	-0.8	A-	0.63
J	094	2	1	8	144.78	18.1	0.72	0.8	A+	0.77
J	095	2	1	8	117.05	14.63	1.29	-0.6	A-	0.91
J	096	2	1	8	323.03	40.38	0.61	1.2	B+	0.80
J	097	2	1	8	57.94	7.24	1.16	-0.3	A-	0.34
J	098	2	1	8	189.84	23.73	0.69	0.9	A+	0.82
J	099	2	1	8	141.59	17.7	0.85	0.4	A+	0.78
J	100	2	1	8	241.06	30.13	1.19	-0.4	A-	0.79
J	102	2	1	8	35.07	4.38	1.04	-0.1	A-	0.79
J	103	2	1	8	138.09	17.26	1.29	-0.6	A-	0.88
J	104	2	1	8	15.25	1.91	0.92	0.2	A+	0.86
J	105	2	1	8	416.96	52.12	1.11	-0.3	A-	0.50
J	106	2	1	8	243.94	30.49	1.42	-0.8	A-	0.76
J	107	2	1	8	183.16	22.89	0.95	0.1	A+	0.32
J	108	2	1	8	285.72	35.71	1.59	-1.1	B-	0.83
J	109	2	1	8	257.44	32.18	0.83	0.4	A+	0.64
J	110	2	1	8	64.49	8.06	1.05	-0.1	A-	0.78
J	111	2	1	8	41.56	5.2	0.89	0.3	A+	0.75
J	112	2	1	8	245.24	30.66	0.81	0.5	A+	0.34
J	113	2	1	8	278.8	34.85	0.7	0.9	A+	0.66
J	114	2	1	8	273.21	34.15	1.25	-0.5	A-	0.63
J	115	2	1	8	323.01	40.38	1.71	-1.3	B-	0.82
J	116	2	1	8	754.08	94.26	1.4	-0.8	A-	0.52
J	117	2	1	8	67.94	8.49	1.14	-0.3	A-	0.44
J	118	2	1	8	187.43	23.43	0.93	0.2	A+	0.53
J	119	2	1	8	203.67	25.46	1.42	-0.8	A-	0.60
J	120	2	1	8	65.83	8.23	0.88	0.3	A+	0.80
J	121	2	1	8	149.47	18.68	0.91	0.2	A+	0.47
J	122	2	1	8	206.19	25.77	1.3	-0.6	A-	0.58
J	123	2	1	8	120.79	15.1	1.01	0	A-	0.49
J	124	2	1	8	274	34.25	0.71	0.8	A+	0.64
J	125	2	1	8	237.79	29.72	0.83	0.4	A+	0.65
J	126	2	1	8	119.64	14.96	1.06	-0.1	A-	0.67
J	127	2	1	8	172.14	21.52	0.91	0.2	A+	0.33
J	128	2	1	8	487.37	60.92	1.26	-0.6	A-	0.62
J	129	2	1	8	526.17	65.77	0.75	0.7	A+	0.78
K	094	2	1	8	125.95	15.74	0.84	0.4	A+	0.75
K	095	2	1	8	492.74	61.59	1.2	-0.4	A-	0.74
K	096	2	1	8	109.93	13.74	1.39	-0.8	A-	0.86
K	097	2	1	8	487.77	60.97	1.36	-0.7	A-	0.70

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 8 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	p-value
K	098	2	1	8	174.82	21.85	0.72	0.8	A+	0.72
K	099	2	1	8	82.71	10.34	0.87	0.3	A+	0.80
K	100	2	1	8	139.82	17.48	0.91	0.2	A+	0.84
K	101	2	1	8	338.4	42.3	0.8	0.5	A+	0.54
K	102	2	1	8	502.69	62.84	1.5	-0.9	A-	0.74
K	103	2	1	8	30.71	3.84	1.21	-0.5	A-	0.88
K	104	2	1	8	93.2	11.65	1.29	-0.6	A-	0.86
K	105	2	1	8	473.12	59.14	1.51	-1	A-	0.49
K	106	2	1	8	330.98	41.37	0.68	0.9	A+	0.39
K	108	2	1	8	281.34	35.17	1	0	A	0.51
K	109	2	1	8	449.25	56.16	1.57	-1.1	B-	0.74
K	110	2	1	8	30.58	3.82	0.94	0.1	A+	0.94
K	111	2	1	8	70.82	8.85	1.02	0	A-	0.45
K	112	2	1	8	55.05	6.88	0.94	0.2	A+	0.31
K	113	2	1	8	670.18	83.77	0.56	1.4	B+	0.62
K	114	2	1	8	46.45	5.81	0.79	0.6	A+	0.90
K	115	2	1	8	168.04	21.01	1.24	-0.5	A-	0.54
K	116	2	1	8	64.7	8.09	0.87	0.3	A+	0.85
K	117	2	1	8	101.19	12.65	1.05	-0.1	A-	0.75
K	118	2	1	8	199.49	24.94	1.16	-0.3	A-	0.25
K	119	2	1	8	60.94	7.62	1	0	A-	0.66
K	120	2	1	8	65.35	8.17	0.9	0.3	A+	0.79
K	121	2	1	8	58.53	7.32	1.27	-0.6	A-	0.93
K	122	2	1	8	190.49	23.81	1.1	-0.2	A-	0.36
K	123	2	1	8	230.93	28.87	1.17	-0.4	A-	0.33
K	124	2	1	8	102.65	12.83	1.21	-0.4	A-	0.85
K	125	2	1	8	53.28	6.66	0.95	0.1	A+	0.87
K	126	2	1	8	389.44	48.68	0.99	0	A+	0.63
K	127	2	1	8	92.78	11.6	1.14	-0.3	A-	0.91
K	128	2	1	8	61.43	7.68	1.07	-0.2	A-	0.83
K	129	2	1	8	78.1	9.76	0.96	0.1	A+	0.79
L	094	2	1	8	323.07	40.38	1.09	-0.2	A-	0.73
L	095	2	1	8	244.18	30.52	1.12	-0.3	A-	0.34
L	096	2	1	8	165.34	20.67	0.89	0.3	A+	0.58
L	098	2	1	8	219.96	27.5	0.96	0.1	A+	0.62
L	099	2	1	8	58.34	7.29	1.04	-0.1	A-	0.77
L	100	2	1	8	73.35	9.17	1.12	-0.3	A-	0.65
L	101	2	1	8	95.97	12	1.12	-0.3	A-	0.43
L	102	2	1	8	163.71	20.46	0.93	0.2	A+	0.68
L	103	2	1	8	163.62	20.45	0.93	0.2	A+	0.62
L	104	2	1	8	56.7	7.09	1.07	-0.2	A-	0.81
L	105	2	1	8	116.72	14.59	1.19	-0.4	A-	0.36
L	106	2	1	8	130.35	16.29	1.08	-0.2	A-	0.76
L	107	2	1	8	179.91	22.49	1.01	0	A-	0.65
L	109	2	1	8	93.24	11.66	1.12	-0.3	A-	0.58
L	110	2	1	8	223.24	27.9	0.93	0.2	A+	0.67
L	111	2	1	8	97.68	12.21	0.79	0.5	A+	0.75
L	112	2	1	8	167.85	20.98	0.95	0.1	A+	0.55
L	113	2	1	8	139.2	17.4	1.22	-0.5	A-	0.79
L	114	2	1	8	94.43	11.8	0.77	0.6	A+	0.84
L	115	2	1	8	96.5	12.06	0.79	0.5	A+	0.58

**Appendix T: 2002 PSSA DIF Analysis  
Grade 8 Reading MC Items**

<b>Form</b>	<b>Sequence</b>	<b>Ref</b>	<b>Focal</b>	<b>d.f.</b>	<b>ChiSq</b>	<b>M.S.</b>	<b>OddsRatio</b>	<b>Effect</b>	<b>Code</b>	<b>p-value</b>
L	116	2	1	8	41.51	5.19	1.06	-0.1	A-	0.78
L	117	2	1	8	171.07	21.38	0.94	0.1	A+	0.69
L	118	2	1	8	24.89	3.11	0.92	0.2	A+	0.85
L	119	2	1	8	109.92	13.74	1.04	-0.1	A-	0.54
L	120	2	1	8	119.15	14.89	1.09	-0.2	A-	0.53
L	121	2	1	8	472.81	59.1	1	0	A	0.52
L	122	2	1	8	384.26	48.03	0.55	1.4	B+	0.84
L	123	2	1	8	297.75	37.22	1.05	-0.1	A-	0.47
L	124	2	1	8	58.94	7.37	1.04	-0.1	A-	0.80
L	125	2	1	8	1227.9	153.49	0.47	1.8	C+	0.62
L	126	2	1	8	181.39	22.67	0.9	0.2	A+	0.57
L	127	2	1	8	44.65	5.58	1.02	0	A-	0.87
L	129	2	1	8	343.43	42.93	0.73	0.7	A+	0.55



**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
A	100	1	2	8	12.74	1.59	1.08	-0.20	A-
A	101	1	2	8	21.05	2.63	1.10	-0.20	A-
A	102	1	2	8	11.05	1.38	0.93	0.20	A+
A	103	1	2	8	46.36	5.79	1.60	-1.10	B-
A	104	1	2	8	11.45	1.43	1.17	-0.40	A-
A	105	1	2	8	15.87	1.98	1.32	-0.70	A-
A	106	1	2	8	14.16	1.77	1.06	-0.10	A-
A	107	1	2	8	6.87	0.86	0.86	0.40	A+
A	108	1	2	8	87.89	10.99	1.33	-0.70	A-
A	109	1	2	8	8.00	1.00	0.92	0.20	A+
A	110	1	2	8	9.58	1.20	0.97	0.10	A+
A	111	1	2	8	25.09	3.14	0.76	0.60	A+
A	112	1	2	8	32.26	4.03	1.37	-0.70	A-
A	113	1	2	8	3.89	0.49	1.11	-0.20	A-
A	114	1	2	8	31.88	3.98	0.74	0.70	A+
A	115	1	2	8	4.47	0.56	1.10	-0.20	A-
A	116	1	2	8	18.91	2.36	1.27	-0.60	A-
A	117	1	2	8	11.20	1.40	1.05	-0.10	A-
A	118	1	2	8	7.44	0.93	1.05	-0.10	A-
A	119	1	2	8	9.85	1.23	1.14	-0.30	A-
A	120	1	2	8	11.75	1.47	1.05	-0.10	A-
A	121	1	2	8	21.38	2.67	0.94	0.20	A+
A	122	1	2	8	17.19	2.15	1.04	-0.10	A-
A	123	1	2	8	27.02	3.38	1.09	-0.20	A-
A	124	1	2	8	7.10	0.89	0.89	0.30	A+
A	125	1	2	8	2.28	0.29	1.01	0.00	A-
A	126	1	2	8	16.99	2.12	1.30	-0.60	A-
A	127	1	2	8	18.46	2.31	1.22	-0.50	A-
A	128	1	2	8	15.74	1.97	0.88	0.30	A+
A	129	1	2	8	19.66	2.46	0.79	0.50	A+
A	130	1	2	8	6.23	0.78	0.93	0.20	A+
A	131	1	2	8	6.21	0.78	0.88	0.30	A+
A	132	1	2	8	27.70	3.46	0.74	0.70	A+
A	133	1	2	8	19.35	2.42	0.74	0.70	A+
A	134	1	2	8	14.07	1.76	0.85	0.40	A+
A	135	1	2	8	24.67	3.08	0.76	0.60	A+
A	136	1	2	8	12.94	1.62	0.92	0.20	A+
A	137	1	2	8	94.62	11.83	1.76	-1.30	B-
A	138	1	2	8	11.05	1.38	0.87	0.30	A+
A	139	1	2	8	10.19	1.27	0.91	0.20	A+
B	100	1	2	8	6.75	0.84	1.14	-0.30	A-
B	101	1	2	8	30.85	3.86	1.43	-0.80	A-
B	102	1	2	8	19.99	2.50	1.34	-0.70	A-
B	103	1	2	8	27.06	3.38	0.73	0.70	A+
B	104	1	2	8	11.44	1.43	0.81	0.50	A+
B	105	1	2	8	9.09	1.14	0.91	0.20	A+
B	106	1	2	8	8.06	1.01	1.10	-0.20	A-
B	107	1	2	8	16.84	2.11	0.92	0.20	A+
B	108	1	2	8	12.54	1.57	0.92	0.20	A+
B	109	1	2	8	21.73	2.72	1.26	-0.50	A-

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**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
B	110	1	2	8	32.64	4.08	0.67	0.90	A+
B	111	1	2	8	8.86	1.11	0.95	0.10	A+
B	112	1	2	8	15.22	1.90	0.73	0.70	A+
B	113	1	2	8	12.85	1.61	0.82	0.50	A+
B	114	1	2	8	21.02	2.63	0.71	0.80	A+
B	115	1	2	8	59.67	7.46	1.55	-1.00	B-
B	116	1	2	8	25.18	3.15	0.72	0.80	A+
B	117	1	2	8	40.94	5.12	1.51	-1.00	A-
B	118	1	2	8	72.13	9.02	1.72	-1.30	B-
B	119	1	2	8	11.08	1.38	0.94	0.10	A+
B	120	1	2	8	20.50	2.56	1.34	-0.70	A-
B	121	1	2	8	9.24	1.15	1.01	0.00	A-
B	122	1	2	8	13.33	1.67	0.97	0.10	A+
B	123	1	2	8	16.73	2.09	0.77	0.60	A+
B	124	1	2	8	10.43	1.30	0.83	0.50	A+
B	125	1	2	8	18.16	2.27	0.77	0.60	A+
B	126	1	2	8	9.82	1.23	1.10	-0.20	A-
B	127	1	2	8	6.29	0.79	1.03	-0.10	A-
B	128	1	2	8	12.56	1.57	0.82	0.50	A+
B	129	1	2	8	17.50	2.19	0.81	0.50	A+
B	130	1	2	8	23.95	2.99	0.76	0.60	A+
B	131	1	2	8	14.80	1.85	0.98	0.00	A+
B	132	1	2	8	5.08	0.64	1.15	-0.30	A-
B	133	1	2	8	13.06	1.63	0.94	0.10	A+
B	134	1	2	8	10.62	1.33	0.99	0.00	A+
B	135	1	2	8	24.08	3.01	0.80	0.50	A+
B	136	1	2	8	21.00	2.62	1.26	-0.50	A-
B	137	1	2	8	7.47	0.93	0.93	0.20	A+
B	138	1	2	8	33.16	4.14	1.42	-0.80	A-
B	139	1	2	8	6.27	0.78	1.10	-0.20	A-
C	100	1	2	8	19.93	2.49	1.24	-0.50	A-
C	101	1	2	8	17.08	2.14	0.82	0.50	A+
C	102	1	2	8	41.04	5.13	0.97	0.10	A+
C	103	1	2	8	12.12	1.52	0.79	0.50	A+
C	104	1	2	8	20.49	2.56	0.78	0.60	A+
C	105	1	2	8	7.52	0.94	0.86	0.40	A+
C	106	1	2	8	7.27	0.91	0.96	0.10	A+
C	107	1	2	8	2.71	0.34	1.03	-0.10	A-
C	108	1	2	8	28.03	3.50	1.38	-0.80	A-
C	109	1	2	8	9.15	1.14	0.92	0.20	A+
C	110	1	2	8	10.22	1.28	0.84	0.40	A+
C	111	1	2	8	12.99	1.62	0.84	0.40	A+
C	112	1	2	8	6.73	0.84	0.86	0.40	A+
C	113	1	2	8	15.53	1.94	0.96	0.10	A+
C	114	1	2	8	8.21	1.03	1.05	-0.10	A-
C	115	1	2	8	13.88	1.74	0.92	0.20	A+
C	116	1	2	8	4.13	0.52	1.06	-0.10	A-
C	117	1	2	8	11.44	1.43	1.28	-0.60	A-
C	118	1	2	8	31.58	3.95	1.36	-0.70	A-
C	119	1	2	8	7.91	0.99	1.15	-0.30	A-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
C	120	1	2	8	35.01	4.38	1.34	-0.70	A-
C	121	1	2	8	19.17	2.40	1.16	-0.30	A-
C	122	1	2	8	12.61	1.58	0.88	0.30	A+
C	123	1	2	8	5.85	0.73	0.89	0.30	A+
C	124	1	2	8	13.09	1.64	0.80	0.50	A+
C	125	1	2	8	23.66	2.96	1.13	-0.30	A-
C	126	1	2	8	19.45	2.43	1.29	-0.60	A-
C	127	1	2	8	17.89	2.24	1.14	-0.30	A-
C	128	1	2	8	11.26	1.41	1.18	-0.40	A-
C	129	1	2	8	3.13	0.39	1.05	-0.10	A-
C	130	1	2	8	21.83	2.73	0.77	0.60	A+
C	131	1	2	8	9.96	1.24	0.93	0.20	A+
C	132	1	2	8	20.56	2.57	1.19	-0.40	A-
C	133	1	2	8	9.57	1.20	0.83	0.40	A+
C	134	1	2	8	12.90	1.61	0.86	0.40	A+
C	135	1	2	8	4.43	0.55	1.15	-0.30	A-
C	136	1	2	8	39.10	4.89	1.85	-1.50	B-
C	137	1	2	8	37.27	4.66	0.73	0.70	A+
C	138	1	2	8	17.54	2.19	1.12	-0.30	A-
C	139	1	2	8	5.66	0.71	1.12	-0.30	A-
D	100	1	2	8	6.88	0.86	0.99	0.00	A+
D	101	1	2	8	35.05	4.38	1.51	-1.00	A-
D	102	1	2	8	9.31	1.16	0.93	0.20	A+
D	103	1	2	8	6.73	0.84	1.06	-0.10	A-
D	104	1	2	8	24.33	3.04	0.74	0.70	A+
D	105	1	2	8	9.14	1.14	1.01	0.00	A-
D	106	1	2	8	10.82	1.35	0.95	0.10	A+
D	107	1	2	8	11.33	1.42	0.93	0.20	A+
D	108	1	2	8	9.72	1.21	1.06	-0.10	A-
D	109	1	2	8	5.04	0.63	0.92	0.20	A+
D	110	1	2	8	21.28	2.66	0.74	0.70	A+
D	111	1	2	8	14.92	1.87	0.84	0.40	A+
D	112	1	2	8	17.34	2.17	0.89	0.30	A+
D	113	1	2	8	23.14	2.89	1.23	-0.50	A-
D	114	1	2	8	14.74	1.84	0.86	0.30	A+
D	115	1	2	8	21.26	2.66	1.26	-0.50	A-
D	116	1	2	8	14.04	1.75	0.82	0.50	A+
D	117	1	2	8	42.51	5.31	1.47	-0.90	A-
D	118	1	2	8	43.18	5.40	1.70	-1.20	B-
D	119	1	2	8	4.24	0.53	0.99	0.00	A+
D	120	1	2	8	58.98	7.37	0.60	1.20	B+
D	121	1	2	8	19.61	2.45	0.89	0.30	A+
D	122	1	2	8	4.96	0.62	1.02	0.00	A-
D	123	1	2	8	89.71	11.21	1.94	-1.60	C-
D	124	1	2	8	7.48	0.94	0.85	0.40	A+
D	125	1	2	8	22.64	2.83	0.76	0.70	A+
D	126	1	2	8	11.13	1.39	0.81	0.50	A+
D	127	1	2	8	5.88	0.73	0.81	0.50	A+
D	128	1	2	8	15.02	1.88	0.90	0.30	A+
D	129	1	2	8	24.49	3.06	1.25	-0.50	A-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
D	130	1	2	8	13.28	1.66	0.85	0.40	A+
D	131	1	2	8	15.67	1.96	0.93	0.20	A+
D	132	1	2	8	30.97	3.87	1.41	-0.80	A-
D	133	1	2	8	5.30	0.66	1.15	-0.30	A-
D	134	1	2	8	23.49	2.94	0.78	0.60	A+
D	135	1	2	8	3.77	0.47	1.07	-0.20	A-
D	136	1	2	8	7.89	0.99	0.90	0.20	A+
D	137	1	2	8	9.90	1.24	1.22	-0.50	A-
D	138	1	2	8	35.19	4.40	1.53	-1.00	A-
D	139	1	2	8	8.87	1.11	0.90	0.20	A+
E	100	1	2	8	14.74	1.84	1.19	-0.40	A-
E	101	1	2	8	8.76	1.09	1.19	-0.40	A-
E	102	1	2	8	13.01	1.63	1.15	-0.30	A-
E	103	1	2	8	17.68	2.21	1.13	-0.30	A-
E	104	1	2	8	8.65	1.08	0.89	0.30	A+
E	105	1	2	8	9.24	1.16	1.11	-0.20	A-
E	106	1	2	8	4.82	0.60	1.17	-0.40	A-
E	107	1	2	8	49.80	6.22	1.55	-1.00	B-
E	108	1	2	8	10.26	1.28	0.83	0.40	A+
E	109	1	2	8	15.70	1.96	0.95	0.10	A+
E	110	1	2	8	16.74	2.09	1.19	-0.40	A-
E	111	1	2	8	8.00	1.00	0.96	0.10	A+
E	112	1	2	8	18.85	2.36	0.81	0.50	A+
E	113	1	2	8	11.22	1.40	0.89	0.30	A+
E	114	1	2	8	7.44	0.93	0.92	0.20	A+
E	115	1	2	8	5.41	0.68	0.97	0.10	A+
E	116	1	2	8	7.79	0.97	0.99	0.00	A+
E	117	1	2	8	96.87	12.11	1.73	-1.30	B-
E	118	1	2	8	10.36	1.29	1.00	0.00	A
E	119	1	2	8	16.85	2.11	1.01	0.00	A-
E	120	1	2	8	11.36	1.42	1.01	0.00	A-
E	121	1	2	8	34.46	4.31	0.71	0.80	A+
E	122	1	2	8	6.39	0.80	1.04	-0.10	A-
E	123	1	2	8	29.40	3.67	1.45	-0.90	A-
E	124	1	2	8	10.64	1.33	0.81	0.50	A+
E	125	1	2	8	7.46	0.93	0.89	0.30	A+
E	126	1	2	8	13.45	1.68	1.20	-0.40	A-
E	127	1	2	8	7.07	0.88	0.96	0.10	A+
E	128	1	2	8	20.36	2.55	0.78	0.60	A+
E	129	1	2	8	18.83	2.35	0.75	0.70	A+
E	130	1	2	8	59.19	7.40	0.66	1.00	A+
E	131	1	2	8	29.74	3.72	0.79	0.60	A+
E	132	1	2	8	7.31	0.91	0.84	0.40	A+
E	133	1	2	8	18.95	2.37	1.15	-0.30	A-
E	134	1	2	8	13.54	1.69	0.87	0.30	A+
E	135	1	2	8	17.59	2.20	1.00	0.00	A
E	136	1	2	8	9.94	1.24	1.15	-0.30	A-
E	137	1	2	8	17.68	2.21	0.74	0.70	A+
E	138	1	2	8	3.80	0.47	1.02	0.00	A-
E	139	1	2	8	64.32	8.04	1.91	-1.50	C-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
F	100	1	2	8	58.95	7.37	1.70	-1.20	B-
F	101	1	2	8	11.70	1.46	1.10	-0.20	A-
F	102	1	2	8	12.32	1.54	1.21	-0.50	A-
F	103	1	2	8	13.91	1.74	0.90	0.30	A+
F	104	1	2	8	3.92	0.49	1.03	-0.10	A-
F	105	1	2	8	14.41	1.80	0.85	0.40	A+
F	106	1	2	8	5.77	0.72	0.92	0.20	A+
F	107	1	2	8	7.16	0.90	1.04	-0.10	A-
F	108	1	2	8	31.30	3.91	0.93	0.20	A+
F	109	1	2	8	10.71	1.34	1.03	-0.10	A-
F	110	1	2	8	11.45	1.43	1.03	-0.10	A-
F	111	1	2	8	6.06	0.76	0.91	0.20	A+
F	112	1	2	8	7.63	0.95	1.15	-0.30	A-
F	113	1	2	8	10.50	1.31	0.98	0.00	A+
F	114	1	2	8	38.26	4.78	1.33	-0.70	A-
F	115	1	2	8	51.48	6.43	0.66	1.00	A+
F	116	1	2	8	20.74	2.59	1.42	-0.80	A-
F	117	1	2	8	9.21	1.15	1.08	-0.20	A-
F	118	1	2	8	20.60	2.57	1.32	-0.70	A-
F	119	1	2	8	7.23	0.90	1.01	0.00	A-
F	120	1	2	8	45.76	5.72	1.08	-0.20	A-
F	121	1	2	8	17.00	2.13	0.75	0.70	A+
F	122	1	2	8	15.40	1.92	0.96	0.10	A+
F	123	1	2	8	4.84	0.61	1.02	0.00	A-
F	124	1	2	8	10.24	1.28	0.87	0.30	A+
F	125	1	2	8	3.03	0.38	0.92	0.20	A+
F	126	1	2	8	21.85	2.73	1.32	-0.70	A-
F	127	1	2	8	11.67	1.46	0.99	0.00	A+
F	128	1	2	8	50.12	6.26	0.63	1.10	B+
F	129	1	2	8	76.58	9.57	0.51	1.60	C+
F	130	1	2	8	4.02	0.50	0.98	0.10	A+
F	131	1	2	8	8.29	1.04	0.95	0.10	A+
F	132	1	2	8	27.69	3.46	1.36	-0.70	A-
F	133	1	2	8	6.91	0.86	1.15	-0.30	A-
F	134	1	2	8	7.72	0.96	0.91	0.20	A+
F	135	1	2	8	12.96	1.62	0.85	0.40	A+
F	136	1	2	8	6.99	0.87	1.01	0.00	A-
F	137	1	2	8	5.65	0.71	1.00	0.00	A
F	138	1	2	8	6.67	0.83	0.93	0.20	A+
F	139	1	2	8	23.19	2.90	0.84	0.40	A+
G	100	1	2	8	13.62	1.70	1.26	-0.50	A-
G	101	1	2	8	22.45	2.81	0.72	0.80	A+
G	102	1	2	8	6.98	0.87	0.97	0.10	A+
G	103	1	2	8	11.71	1.46	0.81	0.50	A+
G	104	1	2	8	18.93	2.37	0.81	0.50	A+
G	105	1	2	8	53.85	6.73	0.56	1.40	B+
G	106	1	2	8	12.90	1.61	1.21	-0.40	A-
G	107	1	2	8	9.89	1.24	0.99	0.00	A+
G	108	1	2	8	13.85	1.73	1.28	-0.60	A-
G	109	1	2	8	19.58	2.45	1.12	-0.30	A-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
G	110	1	2	8	3.13	0.39	0.98	0.00	A+
G	111	1	2	8	26.20	3.28	1.19	-0.40	A-
G	112	1	2	8	8.21	1.03	1.14	-0.30	A-
G	113	1	2	8	54.68	6.83	1.68	-1.20	B-
G	114	1	2	8	24.86	3.11	0.75	0.70	A+
G	115	1	2	8	9.85	1.23	0.97	0.10	A+
G	116	1	2	8	10.23	1.28	0.95	0.10	A+
G	117	1	2	8	26.62	3.33	0.89	0.30	A+
G	118	1	2	8	11.93	1.49	1.01	0.00	A-
G	119	1	2	8	3.52	0.44	1.03	-0.10	A-
G	120	1	2	8	10.90	1.36	1.17	-0.40	A-
G	121	1	2	8	15.55	1.94	0.80	0.50	A+
G	122	1	2	8	26.25	3.28	0.97	0.10	A+
G	123	1	2	8	13.13	1.64	0.96	0.10	A+
G	124	1	2	8	10.89	1.36	0.99	0.00	A+
G	125	1	2	8	6.70	0.84	0.89	0.30	A+
G	126	1	2	8	8.98	1.12	1.03	-0.10	A-
G	127	1	2	8	15.96	2.00	0.89	0.30	A+
G	128	1	2	8	18.23	2.28	1.36	-0.70	A-
G	129	1	2	8	7.14	0.89	0.99	0.00	A+
G	130	1	2	8	3.52	0.44	0.89	0.30	A+
G	131	1	2	8	6.50	0.81	0.92	0.20	A+
G	132	1	2	8	18.77	2.35	1.09	-0.20	A-
G	133	1	2	8	3.83	0.48	0.95	0.10	A+
G	134	1	2	8	24.11	3.01	0.95	0.10	A+
G	135	1	2	8	10.34	1.29	0.85	0.40	A+
G	136	1	2	8	9.07	1.13	1.14	-0.30	A-
G	137	1	2	8	12.04	1.51	1.03	-0.10	A-
G	138	1	2	8	10.05	1.26	1.19	-0.40	A-
G	139	1	2	8	9.02	1.13	1.12	-0.30	A-
H	100	1	2	8	14.10	1.76	0.95	0.10	A+
H	101	1	2	8	13.99	1.75	1.21	-0.40	A-
H	102	1	2	8	10.18	1.27	1.03	-0.10	A-
H	103	1	2	8	19.00	2.38	1.24	-0.50	A-
H	104	1	2	8	10.77	1.35	0.86	0.40	A+
H	105	1	2	8	67.63	8.45	0.54	1.40	B+
H	106	1	2	8	10.62	1.33	1.06	-0.10	A-
H	107	1	2	8	7.51	0.94	1.14	-0.30	A-
H	108	1	2	8	17.79	2.22	0.71	0.80	A+
H	109	1	2	8	14.67	1.83	0.96	0.10	A+
H	110	1	2	8	23.81	2.98	0.75	0.70	A+
H	111	1	2	8	41.65	5.21	0.66	1.00	A+
H	112	1	2	8	9.68	1.21	1.15	-0.30	A-
H	113	1	2	8	7.89	0.99	1.08	-0.20	A-
H	114	1	2	8	15.39	1.92	0.90	0.30	A+
H	115	1	2	8	20.26	2.53	1.21	-0.40	A-
H	116	1	2	8	35.54	4.44	0.67	1.00	A+
H	117	1	2	8	53.97	6.75	1.48	-0.90	A-
H	118	1	2	8	6.04	0.76	1.03	-0.10	A-
H	119	1	2	8	11.21	1.40	1.03	-0.10	A-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
H	120	1	2	8	7.26	0.91	0.96	0.10	A+
H	121	1	2	8	41.70	5.21	1.36	-0.70	A-
H	122	1	2	8	3.79	0.47	1.06	-0.10	A-
H	123	1	2	8	5.21	0.65	0.98	0.00	A+
H	124	1	2	8	31.14	3.89	0.69	0.90	A+
H	125	1	2	8	9.75	1.22	1.11	-0.20	A-
H	126	1	2	8	12.94	1.62	1.23	-0.50	A-
H	127	1	2	8	11.73	1.47	1.12	-0.30	A-
H	128	1	2	8	10.85	1.36	1.20	-0.40	A-
H	129	1	2	8	27.68	3.46	0.98	0.00	A+
H	130	1	2	8	16.16	2.02	0.81	0.50	A+
H	131	1	2	8	12.54	1.57	0.92	0.20	A+
H	132	1	2	8	12.67	1.58	0.87	0.30	A+
H	133	1	2	8	11.68	1.46	1.13	-0.30	A-
H	134	1	2	8	14.59	1.82	0.79	0.60	A+
H	135	1	2	8	14.93	1.87	1.22	-0.50	A-
H	136	1	2	8	15.56	1.95	0.78	0.60	A+
H	137	1	2	8	44.00	5.50	1.50	-1.00	A-
H	138	1	2	8	49.90	6.24	1.66	-1.20	B-
H	139	1	2	8	9.28	1.16	1.08	-0.20	A-
I	100	1	2	8	12.42	1.55	0.90	0.20	A+
I	101	1	2	8	41.53	5.19	0.69	0.90	A+
I	102	1	2	8	9.87	1.23	1.06	-0.10	A-
I	103	1	2	8	13.35	1.67	1.20	-0.40	A-
I	104	1	2	8	17.02	2.13	0.79	0.50	A+
I	105	1	2	8	20.12	2.52	0.84	0.40	A+
I	106	1	2	8	8.72	1.09	1.02	0.00	A-
I	107	1	2	8	7.09	0.89	1.02	0.00	A-
I	108	1	2	8	16.42	2.05	0.84	0.40	A+
I	109	1	2	8	28.09	3.51	0.64	1.00	B+
I	110	1	2	8	71.05	8.88	0.80	0.50	A+
I	111	1	2	8	44.37	5.55	0.69	0.90	A+
I	112	1	2	8	8.36	1.05	1.18	-0.40	A-
I	113	1	2	8	5.20	0.65	0.99	0.00	A+
I	114	1	2	8	19.15	2.39	0.88	0.30	A+
I	115	1	2	8	8.90	1.11	0.94	0.10	A+
I	116	1	2	8	16.18	2.02	1.09	-0.20	A-
I	117	1	2	8	16.39	2.05	0.82	0.50	A+
I	118	1	2	8	5.58	0.70	0.99	0.00	A+
I	119	1	2	8	72.22	9.03	2.09	-1.70	C-
I	120	1	2	8	12.53	1.57	1.07	-0.20	A-
I	121	1	2	8	12.12	1.52	1.01	0.00	A-
I	122	1	2	8	7.73	0.97	0.96	0.10	A+
I	123	1	2	8	55.11	6.89	1.31	-0.60	A-
I	124	1	2	8	9.43	1.18	1.18	-0.40	A-
I	125	1	2	8	33.01	4.13	1.33	-0.70	A-
I	126	1	2	8	13.61	1.70	1.09	-0.20	A-
I	127	1	2	8	3.32	0.41	1.04	-0.10	A-
I	128	1	2	8	37.73	4.72	1.53	-1.00	A-
I	129	1	2	8	26.85	3.36	1.18	-0.40	A-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
I	130	1	2	8	7.06	0.88	1.07	-0.20	A-
I	131	1	2	8	8.60	1.07	0.88	0.30	A+
I	132	1	2	8	18.69	2.34	1.26	-0.50	A-
I	133	1	2	8	15.69	1.96	1.20	-0.40	A-
I	134	1	2	8	12.76	1.60	0.90	0.20	A+
I	135	1	2	8	11.22	1.40	1.22	-0.50	A-
I	136	1	2	8	8.08	1.01	1.17	-0.40	A-
I	137	1	2	8	22.78	2.85	1.40	-0.80	A-
I	138	1	2	8	12.23	1.53	0.96	0.10	A+
I	139	1	2	8	23.96	2.99	1.18	-0.40	A-
J	100	1	2	8	7.85	0.98	1.01	0.00	A-
J	101	1	2	8	13.25	1.66	0.82	0.50	A+
J	102	1	2	8	20.24	2.53	1.24	-0.50	A-
J	103	1	2	8	14.31	1.79	0.87	0.30	A+
J	104	1	2	8	7.61	0.95	0.92	0.20	A+
J	105	1	2	8	22.81	2.85	0.71	0.80	A+
J	106	1	2	8	14.05	1.76	1.17	-0.40	A-
J	107	1	2	8	14.62	1.83	0.90	0.30	A+
J	108	1	2	8	53.67	6.71	0.60	1.20	B+
J	109	1	2	8	69.76	8.72	0.52	1.50	C+
J	110	1	2	8	10.01	1.25	1.00	0.00	A
J	111	1	2	8	9.22	1.15	1.07	-0.20	A-
J	112	1	2	8	19.35	2.42	1.35	-0.70	A-
J	113	1	2	8	7.66	0.96	1.16	-0.40	A-
J	114	1	2	8	3.98	0.50	0.95	0.10	A+
J	115	1	2	8	18.75	2.34	0.83	0.40	A+
J	116	1	2	8	8.24	1.03	0.87	0.30	A+
J	117	1	2	8	10.89	1.36	1.13	-0.30	A-
J	118	1	2	8	9.28	1.16	0.98	0.00	A+
J	119	1	2	8	16.00	2.00	0.99	0.00	A+
J	120	1	2	8	13.14	1.64	1.07	-0.10	A-
J	121	1	2	8	47.37	5.92	1.63	-1.20	B-
J	122	1	2	8	27.78	3.47	1.40	-0.80	A-
J	123	1	2	8	11.37	1.42	0.83	0.40	A+
J	124	1	2	8	5.03	0.63	0.98	0.10	A+
J	125	1	2	8	13.73	1.72	0.83	0.40	A+
J	126	1	2	8	12.93	1.62	1.11	-0.30	A-
J	127	1	2	8	6.99	0.87	1.15	-0.30	A-
J	128	1	2	8	12.92	1.61	0.96	0.10	A+
J	129	1	2	8	32.18	4.02	1.44	-0.90	A-
J	130	1	2	8	8.37	1.05	0.89	0.30	A+
J	131	1	2	8	11.39	1.42	1.15	-0.30	A-
J	132	1	2	8	5.08	0.63	0.89	0.30	A+
J	133	1	2	8	20.57	2.57	1.07	-0.20	A-
J	134	1	2	8	6.11	0.76	1.02	-0.10	A-
J	135	1	2	8	47.02	5.88	1.61	-1.10	B-
J	136	1	2	8	31.64	3.95	0.76	0.60	A+
J	137	1	2	8	73.96	9.24	1.65	-1.20	B-
J	138	1	2	8	36.69	4.59	1.44	-0.90	A-
J	139	1	2	8	11.69	1.46	1.09	-0.20	A-



**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
K	100	1	2	8	91.52	11.44	1.84	-1.40	B-
K	101	1	2	8	25.54	3.19	1.31	-0.60	A-
K	102	1	2	8	24.87	3.11	1.01	0.00	A-
K	103	1	2	8	17.25	2.16	0.83	0.40	A+
K	104	1	2	8	3.93	0.49	0.89	0.30	A+
K	105	1	2	8	8.24	1.03	1.16	-0.40	A-
K	106	1	2	8	16.05	2.01	1.26	-0.50	A-
K	107	1	2	8	13.26	1.66	1.18	-0.40	A-
K	108	1	2	8	7.37	0.92	0.97	0.10	A+
K	109	1	2	8	3.73	0.47	0.93	0.20	A+
K	110	1	2	8	40.67	5.08	0.68	0.90	A+
K	111	1	2	8	9.94	1.24	0.95	0.10	A+
K	112	1	2	8	10.05	1.26	1.17	-0.40	A-
K	113	1	2	8	17.99	2.25	0.96	0.10	A+
K	114	1	2	8	2.92	0.36	0.94	0.10	A+
K	115	1	2	8	13.82	1.73	1.05	-0.10	A-
K	116	1	2	8	19.30	2.41	1.46	-0.90	A-
K	117	1	2	8	9.53	1.19	0.85	0.40	A+
K	118	1	2	8	21.53	2.69	1.10	-0.20	A-
K	119	1	2	8	26.00	3.25	1.30	-0.60	A-
K	120	1	2	8	8.48	1.06	1.32	-0.70	A-
K	121	1	2	8	46.07	5.76	0.63	1.10	B+
K	122	1	2	8	17.84	2.23	0.76	0.60	A+
K	123	1	2	8	12.16	1.52	0.81	0.50	A+
K	124	1	2	8	11.53	1.44	0.94	0.20	A+
K	125	1	2	8	30.87	3.86	0.67	0.90	A+
K	126	1	2	8	12.46	1.56	1.05	-0.10	A-
K	127	1	2	8	15.42	1.93	0.85	0.40	A+
K	128	1	2	8	21.52	2.69	1.24	-0.50	A-
K	129	1	2	8	13.48	1.68	1.03	-0.10	A-
K	130	1	2	8	4.97	0.62	0.95	0.10	A+
K	131	1	2	8	1.53	0.19	1.02	-0.10	A-
K	132	1	2	8	14.51	1.81	1.17	-0.40	A-
K	133	1	2	8	44.29	5.54	1.56	-1.10	B-
K	134	1	2	8	18.96	2.37	0.88	0.30	A+
K	135	1	2	8	10.33	1.29	1.11	-0.20	A-
K	136	1	2	8	20.75	2.59	0.86	0.30	A+
K	137	1	2	8	10.93	1.37	0.89	0.30	A+
K	138	1	2	8	9.71	1.21	0.93	0.20	A+
K	139	1	2	8	2.19	0.27	0.94	0.10	A+
L	100	1	2	8	19.92	2.49	0.84	0.40	A+
L	101	1	2	8	8.62	1.08	1.06	-0.10	A-
L	102	1	2	8	9.72	1.21	0.98	0.00	A+
L	103	1	2	8 1	12.36	14.04	2.05	-1.70	C-
L	104	1	2	8	3.49	0.44	0.91	0.20	A+
L	105	1	2	8	12.03	1.50	0.77	0.60	A+
L	106	1	2	8	26.45	3.31	0.96	0.10	A+
L	107	1	2	8	24.87	3.11	0.97	0.10	A+
L	108	1	2	8	16.45	2.06	1.04	-0.10	A-
L	109	1	2	8	25.15	3.14	1.43	-0.80	A-

**Appendix T: 2002 PSSA DIF Analysis**  
**Grade 11 Reading MC Items**

Form	Sequence	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
L	110	1	2	8	18.70	2.34	0.86	0.40	A+
L	111	1	2	8	6.39	0.80	0.99	0.00	A+
L	112	1	2	8	51.11	6.39	1.60	-1.10	B-
L	113	1	2	8	51.23	6.40	1.48	-0.90	A-
L	114	1	2	8	17.55	2.19	0.85	0.40	A+
L	115	1	2	8	19.52	2.44	1.27	-0.60	A-
L	116	1	2	8	14.84	1.85	1.06	-0.10	A-
L	117	1	2	8	12.05	1.51	1.25	-0.50	A-
L	118	1	2	8	73.59	9.20	1.95	-1.60	C-
L	119	1	2	8	6.15	0.77	0.91	0.20	A+
L	120	1	2	8	8.25	1.03	0.98	0.10	A+
L	121	1	2	8	9.01	1.13	1.08	-0.20	A-
L	122	1	2	8	17.45	2.18	0.78	0.60	A+
L	123	1	2	8	7.92	0.99	1.09	-0.20	A-
L	124	1	2	8	8.78	1.10	0.85	0.40	A+
L	125	1	2	8	45.24	5.66	0.63	1.10	B+
L	126	1	2	8	13.73	1.72	1.09	-0.20	A-
L	127	1	2	8	10.28	1.28	1.13	-0.30	A-
L	128	1	2	8	14.94	1.87	0.83	0.40	A+
L	129	1	2	8	15.53	1.94	0.97	0.10	A+
L	130	1	2	8	20.03	2.50	0.80	0.50	A+
L	131	1	2	8	35.55	4.44	0.74	0.70	A+
L	132	1	2	8	8.21	1.03	1.08	-0.20	A-
L	133	1	2	8	9.39	1.17	1.12	-0.30	A-
L	134	1	2	8	8.18	1.02	0.89	0.30	A+
L	135	1	2	8	10.24	1.28	1.19	-0.40	A-
L	136	1	2	8	30.52	3.82	0.69	0.90	A+
L	137	1	2	8	37.96	4.74	1.46	-0.90	A-
L	138	1	2	8	16.76	2.09	1.10	-0.20	A-
L	139	1	2	8	8.80	1.10	1.00	0.00	A

**Appendix U: 2002 PSSA DIF Analysis  
Open Ended Reading Items**

<b>Black / White</b>											
<b>Grade</b>	<b>Item Name</b>	<b>Form</b>	<b>Sequence</b>	<b>Ref</b>	<b>Focal</b>	<b>d.f.</b>	<b>Max Score</b>	<b>SMD</b>	<b>SE of SMD</b>	<b>Effect</b>	<b>Code</b>
5	A5RA110P03	A	110	2	1	8	4	0.03	0.02	1.7	A+
5	B5RB110P03	B	110	2	1	8	4	0.01	0.02	0.4	A+
5	C5RC110P03	C	110	2	1	8	4	0.00	0.02	0.2	A+
5	D5RD110P03	D	110	2	1	8	4	-0.01	0.02	-0.9	A-
5	E5RE110P03	E	110	2	1	8	4	0.07	0.02	3.9	B+
5	F5RF110P03	F	110	2	1	8	4	0.01	0.02	0.7	A+
5	G5RG110P03	G	110	2	1	8	4	0.01	0.02	0.5	A+
5	H5RH110P03	H	110	2	1	8	4	-0.04	0.02	-2.9	B-
5	I5RI110P03	I	110	2	1	8	4	-0.02	0.02	-1.4	A-
5	J5RJ110P03	J	110	2	1	8	4	-0.01	0.02	-0.6	A-
5	K5RK110P03	K	110	2	1	8	4	0.04	0.02	2.5	B+
5	L5RL110P03	L	110	2	1	8	4	-0.01	0.02	-0.7	A-
8	A8RA130P03	A	211	2	1	8	4	-0.07	0.02	-3.5	B-
8	B8RB130P03	B	211	2	1	8	4	-0.04	0.02	-1.9	A-
8	C8RC130P03	C	211	2	1	8	4	-0.05	0.02	-2.6	B-
8	D8RD130P03	D	211	2	1	8	4	-0.06	0.02	-3.2	B-
8	E8RE130P03	E	211	2	1	8	4	0.02	0.02	1.0	A+
8	F8RF130P03	F	211	2	1	8	4	-0.01	0.02	-0.3	A-
8	G8RG130P03	G	211	2	1	8	4	0.00	0.02	0.1	A+
8	H8RH130P03	H	211	2	1	8	4	0.00	0.02	-0.2	A-
8	I8RI130P03	I	211	2	1	8	4	-0.07	0.02	-3.4	B-
8	J8RJ130P03	J	211	2	1	8	4	0.01	0.02	0.2	A+
8	K8RK130P03	K	211	2	1	8	4	-0.01	0.02	-0.4	A-
8	L8RL130P03	L	211	2	1	8	4	-0.03	0.02	-1.3	A-
11	A1RA140P	A	140	1	2	8	4	0.16	0.05	3.1	B+
11	B1RB140P	B	140	1	2	8	4	-0.07	0.03	-2.5	B-
11	C1RC140P	C	140	1	2	8	4	0.02	0.03	0.7	A+
11	D1RD140P	D	140	1	2	8	4	-0.06	0.03	-2.1	B-
11	E1RE140P	E	140	1	2	8	4	-0.12	0.03	-4.1	B-
11	F1RF140P	F	140	1	2	8	4	-0.06	0.03	-2.2	B-
11	G1RG140P	G	140	1	2	8	4	-0.14	0.03	-5.0	B-
11	H1RH140P	H	140	1	2	8	4	-0.11	0.03	-4.0	B-
11	I1RI140P	I	140	1	2	8	4	-0.09	0.03	-3.4	B-
11	J1RJ140P	J	140	1	2	8	4	-0.06	0.03	-2.1	B-
11	K1RK140P	K	140	1	2	8	4	-0.05	0.03	-1.8	A-
11	L1RL140P	L	140	1	2	8	4	-0.11	0.03	-4.1	B-

## Appendix V: 2002 PSSA DIF Plots Grade 5 Reading Items

Latino / White

### Form B Sequence 93

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
B5RB093C07										50	3	1	8	403.31	50.41	0.49	1.7	C+
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
										*	1.00	1210	1.00	13				
										-*	0.99	1132	1.00	20				
										*++++	0.98	1119	0.90	30				
										*++	0.97	1369	0.93	54				
										*+++	0.94	1102	0.89	44				
										***	0.91	1044	0.86	74				
										*****		0.78	846	0.53	107			
										*****		0.42	710	0.34	143			
0	1	2	3	4	5	6	7	8	9	0	Right Total	Right Total						

### Form B Sequence 98

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
B5RB098C01										55	3	1	8	1132.45	141.56	2.03	-1.7	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
										-----*		0.68	1210	0.85	13			
										-----*		0.55	1132	0.70	20			
										---*		0.49	1119	0.53	30			
										-----*		0.43	1369	0.54	54			
										-----*		0.35	1102	0.64	44			
										-----*		0.26	1044	0.39	74			
										-----*		0.22	846	0.46	107			
										-----*		0.17	710	0.24	143			
0	1	2	3	4	5	6	7	8	9	0	Right Total	Right Total						

### Form F Sequence 85

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
F5RF085C01										42	3	1	8	967.73	120.97	1.93	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
										*+		0.67	1195	0.64	11			
										-----*		0.55	1457	0.79	33			
										-----*		0.46	1169	0.63	30			
										-----*		0.42	1089	0.56	39			
										-----*		0.39	1179	0.53	57			
										---*		0.31	986	0.38	66			
										-----*		0.24	934	0.33	94			
										-----*		0.16	720	0.30	142			
0	1	2	3	4	5	6	7	8	9	0	Right Total	Right Total						

### Form H Sequence 84

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
H5RH084C01										41	3	1	8	327.31	40.91	0.48	1.7	C+
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
										-*		0.99	1214	1.00	13			
										-*		0.98	1327	1.00	26			
										***		0.96	1458	0.92	36			
										***		0.95	1257	0.91	45			
										*****		0.93	1034	0.84	45			
										***		0.91	1016	0.86	92			
										*****		0.83	818	0.64	94			
										*****		0.60	631	0.46	133			
0	1	2	3	4	5	6	7	8	9	0	Right Total	Right Total						





## Appendix V: 2002 PSSA DIF Plots Grade 8 Reading Items

### Form E Sequence 107

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
E8RE107C01										54	1	2	8	1010.19	126.27	2.56	-2.2	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
											0.94	802	0.98	716				
											0.85	734	0.94	706				
											0.74	749	0.89	721				
											0.64	719	0.81	665				
											0.50	726	0.74	698				
											0.37	684	0.61	720				
											0.30	724	0.48	788				
											0.18	576	0.32	880				
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total				

### Form J Sequence 115

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
J8RJ115C01										62	1	2	8	262.01	32.75	0.49	1.7	C+
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
											0.99	720	0.99	643				
											0.98	723	0.96	644				
											0.96	793	0.92	744				
											0.95	760	0.91	711				
											0.91	756	0.86	726				
											0.87	761	0.76	782				
											0.77	712	0.61	819				
											0.49	585	0.32	879				
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total				

## Appendix V: 2002 PSSA DIF Plots Grade 8 Reading Items

Black / White

### Form D Sequence 94

										-Selected Response--	Seq Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code
										D8RD094C03	41 2	1	8	815.52	101.94	2.18	-1.8 C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****REFERENCE**					
										0.83	1346	0.82	17				
										0.68	1340	0.76	46				
										0.55	1127	0.62	63				
										0.44	1220	0.60	95				
										0.35	1189	0.54	151				
										0.26	915	0.55	227				
										0.21	852	0.39	347				
										0.15	687	0.24	387				
										Right Total	Right Total						

### Form D Sequence 97

										-Selected Response--	Seq Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code
										D8RD097C01	44 2	1	8	651.61	81.45	0.50	1.6 C+
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****REFERENCE**					
										0.97	1346	0.82	17				
										0.93	1340	0.87	46				
										0.91	1127	0.87	63				
										0.86	1220	0.80	95				
										0.79	1189	0.73	151				
										0.72	915	0.55	227				
										0.56	852	0.41	347				
										0.34	687	0.18	387				
										Right Total	Right Total						

### Form D Sequence 102

										-Selected Response--	Seq Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code
										D8RD102C03	49 2	1	8	684.91	85.61	1.91	-1.5 C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****REFERENCE**					
										0.98	1346	1.00	17				
										0.95	1340	0.89	46				
										0.91	1127	0.95	63				
										0.89	1220	0.95	95				
										0.81	1189	0.91	151				
										0.74	915	0.88	227				
										0.62	852	0.79	347				
										0.36	687	0.44	387				
										Right Total	Right Total						

### Form H Sequence 104

										-Selected Response--	Seq Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect Code
										H8RH104C03	51 2	1	8	541.78	67.72	0.45	1.9 C+
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****REFERENCE**					
										0.99	1243	1.00	18				
										0.98	1358	0.96	46				
										0.98	1188	0.94	49				
										0.95	1159	0.94	93				
										0.93	1250	0.77	137				
										0.87	975	0.70	226				
										0.84	844	0.64	307				
										0.56	722	0.45	410				
										Right Total	Right Total						



## Appendix V: 2002 PSSA DIF Plots Grade 8 Reading Items

### Form H Sequence 107

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
H8RH107C07										54	2	1	8	865.02	108.13	0.49	1.7	C+	
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****	*REFERENCE**						
								****			0.90	1243	0.83	18					
								****			0.82	1358	0.76	46					
								*****			0.78	1188	0.65	49					
								*****			0.73	1159	0.56	93					
								*****			0.68	1250	0.47	137					
								*****			0.59	975	0.40	226					
								*****			0.49	844	0.29	307					
								****			0.29	722	0.22	410					
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total					

### Form L Sequence 125

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
L8RL125C07										72	2	1	8	1227.90	153.49	0.47	1.8	C+	
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****	****	*REFERENCE**						
								*****			0.91	1280	0.76	21					
								*****			0.83	1391	0.71	38					
								*****			0.79	1241	0.61	64					
								*****			0.75	1143	0.56	86					
								*****			0.65	1216	0.46	133					
								*****			0.55	1048	0.31	230					
								*****			0.46	777	0.25	338					
								++			0.25	657	0.21	423					
0	1	2	3	4	5	6	7	8	9	0	Right	Total	Right	Total					

## Appendix V: 2002 PSSA DIF Plots Grade 8 Reading Items

Latino / White

### Form G Sequence 96

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
G8RG096C01		43	3	1	8	278.50	34.81	0.51	1.6	C+
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
* 0.99 1361 1.00 13										
* 1.00 1201 1.00 22										
*+ 0.98 1400 0.96 25										
* 0.98 1082 0.97 39										
*++++ 0.97 1106 0.87 54										
*++++ 0.95 1078 0.87 83										
*+++++ 0.89 808 0.76 103										
*+++++ 0.60 754 0.50 143										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										

### Form G Sequence 106

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
G8RG106C07		53	3	1	8	248.29	31.04	1.94	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
-* 0.99 1361 1.00 13										
-* 0.98 1201 1.00 22										
*+ 0.98 1400 0.96 25										
--* 0.96 1082 1.00 39										
---* 0.95 1106 1.00 54										
----* 0.88 1078 0.95 83										
-----* 0.73 808 0.82 103										
-----* 0.43 754 0.57 143										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										

### Form H Sequence 104

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
H8RH104C03		51	3	1	8	357.77	44.72	0.51	1.6	C+
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
-* 0.99 1243 1.00 14										
-* 0.98 1358 1.00 19										
*+ 0.98 1188 0.96 26										
* 0.95 1159 0.94 33										
*+++++ 0.93 1250 0.77 48										
*++++ 0.87 975 0.81 84										
*+++++ 0.84 844 0.70 108										
*+++++ 0.56 722 0.42 140										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										

### Form H Sequence 107

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
H8RH107C07		54	3	1	8	1530.54	191.32	0.40	2.2	C+
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
*+ 0.90 1243 0.86 14										
*+++++ 0.82 1358 0.53 19										
*+++++ 0.78 1188 0.62 26										
*+++++ 0.73 1159 0.52 33										
*++++ 0.68 1250 0.60 48										
*+++++ 0.59 975 0.35 84										
*+++++ 0.49 844 0.23 108										
*+++++ 0.29 722 0.18 140										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										

## Appendix V: 2002 PSSA DIF Plots Grade 8 Reading Items

### Form K Sequence 114

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
0	1	2	3	4	5	6	7	8	9	01	61	3	1	8	349.47	43.68	0.51	1.6	C+
										K8RK114C01		****FOCAL**** **REFERENCE**							
										*****		1.00	1396	0.93	14				
										*		0.99	1260	1.00	16				
										*		0.99	1342	0.97	34				
										*++		0.98	1220	0.94	31				
										*		0.96	1127	0.95	65				
										*+++		0.93	953	0.88	83				
										*****		0.85	830	0.66	87				
										*****		0.53	675	0.42	143				
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total						

### Form L Sequence 125

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code	
0	1	2	3	4	5	6	7	8	9	07	72	3	1	8	966.83	120.85	0.51	1.6	C+
										L8RL125C07		****FOCAL**** **REFERENCE**							
										-----*		0.91	1280	1.00	12				
										***		0.83	1391	0.79	19				
										*****		0.79	1241	0.58	26				
										*****		0.75	1143	0.58	31				
										*****		0.65	1216	0.47	58				
										*****		0.55	1048	0.36	78				
										*****		0.46	777	0.22	107				
										*		0.25	657	0.24	136				
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total						

## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

Male / Female

### Form B Sequence 117

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
B1RB117C		58	1	2	8	863.16	107.89	2.20	-1.9	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL****										****REFERENCE**
										-*
										0.95
										675
										0.98
										645
										0.89
										508
										0.97
										522
										0.81
										546
										0.95
										523
										0.71
										760
										0.89
										740
										0.60
										664
										0.77
										561
										0.45
										718
										0.63
										583
										0.31
										636
										0.43
										681
										0.16
										471
										0.18
										732
0	1	2	3	4	5	6	7	8	9	0
Right Total										Right Total

### Form B Sequence 140

Constructed Response		Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
B1RB140P		81	1	2	8	4	0.150	0.015	10.0	C+	
0	1	2	3	4	****FOCAL****						****REFERENCE**
										*	
										3.06	
										675	
										3.02	
										645	
										2.64	
										508	
										2.58	
										522	
										2.57	
										546	
										2.41	
										523	
										2.30	
										760	
										2.17	
										740	
										2.12	
										664	
										1.93	
										561	
										1.87	
										718	
										1.66	
										583	
										1.52	
										636	
										1.33	
										681	
										1.00	
										409	
										0.77	
										678	
0	1	2	3	4	Right Total						Right Total

### Form C Sequence 120

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
C1RC120C		61	1	2	8	440.55	55.07	1.99	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL****										****REFERENCE**
										*
										1.00
										568
										1.00
										612
										0.99
										549
										0.97
										499
										0.95
										499
										0.98
										547
										0.87
										774
										0.96
										725
										0.77
										603
										0.89
										601
										0.60
										697
										0.77
										706
										0.31
										524
										0.35
										815
0	1	2	3	4	5	6	7	8	9	0
Right Total										Right Total

### Form C Sequence 140

Constructed Response		Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code	
C1RC140P		81	1	2	8	4	0.266	0.015	17.5	C+	
0	1	2	3	4	****FOCAL****						****REFERENCE**
										*	
										3.08	
										568	
										2.90	
										551	
										2.78	
										680	
										2.54	
										612	
										2.56	
										549	
										2.32	
										499	
										2.39	
										499	
										2.13	
										547	
										2.20	
										774	
										1.91	
										725	
										2.01	
										603	
										1.74	
										601	
										1.72	
										697	
										1.40	
										706	
										1.14	
										475	
										0.83	
										761	
0	1	2	3	4	Right Total						Right Total

## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

### Form D Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code																																																																																								
D1RD140P	81	1	2	8	4	0.268	0.015	17.6	C+																																																																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>****FOCAL****</th> <th>****REFERENCE****</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">***</td> <td>3.17</td> <td>643</td> <td>3.01</td> <td>598</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.80</td> <td>758</td> <td>2.59</td> <td>727</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>2.61</td> <td>573</td> <td>2.33</td> <td>550</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>2.47</td> <td>556</td> <td>2.11</td> <td>541</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.25</td> <td>701</td> <td>1.97</td> <td>644</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>1.94</td> <td>731</td> <td>1.60</td> <td>658</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>1.50</td> <td>539</td> <td>1.24</td> <td>619</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>0.94</td> <td>379</td> <td>0.67</td> <td>687</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> </tr> </tbody> </table>										0	1	2	3	4	****FOCAL****	****REFERENCE****					***	3.17	643	3.01	598					****	2.80	758	2.59	727					*****	2.61	573	2.33	550					*****	2.47	556	2.11	541					****	2.25	701	1.97	644					*****	1.94	731	1.60	658					****	1.50	539	1.24	619					*****	0.94	379	0.67	687	0	1	2	3	4	Right Total	Right Total	Right Total	Right Total
0	1	2	3	4	****FOCAL****	****REFERENCE****																																																																																											
				***	3.17	643	3.01	598																																																																																									
				****	2.80	758	2.59	727																																																																																									
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				*****	0.94	379	0.67	687																																																																																									
0	1	2	3	4	Right Total	Right Total	Right Total	Right Total																																																																																									

### Form E Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code																																																																																								
E1RE140P	81	1	2	8	4	0.258	0.015	17.7	C+																																																																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>****FOCAL****</th> <th>****REFERENCE****</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">***</td> <td>3.21</td> <td>633</td> <td>3.04</td> <td>625</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.91</td> <td>512</td> <td>2.65</td> <td>530</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.73</td> <td>604</td> <td>2.50</td> <td>610</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.59</td> <td>646</td> <td>2.32</td> <td>563</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>2.39</td> <td>601</td> <td>2.07</td> <td>493</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.20</td> <td>789</td> <td>1.89</td> <td>638</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>1.80</td> <td>712</td> <td>1.57</td> <td>706</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>1.16</td> <td>459</td> <td>0.89</td> <td>851</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> </tr> </tbody> </table>										0	1	2	3	4	****FOCAL****	****REFERENCE****					***	3.21	633	3.04	625					****	2.91	512	2.65	530					****	2.73	604	2.50	610					****	2.59	646	2.32	563					*****	2.39	601	2.07	493					****	2.20	789	1.89	638					****	1.80	712	1.57	706					*****	1.16	459	0.89	851	0	1	2	3	4	Right Total	Right Total	Right Total	Right Total
0	1	2	3	4	****FOCAL****	****REFERENCE****																																																																																											
				***	3.21	633	3.04	625																																																																																									
				****	2.91	512	2.65	530																																																																																									
				****	2.73	604	2.50	610																																																																																									
				****	2.59	646	2.32	563																																																																																									
				*****	2.39	601	2.07	493																																																																																									
				****	2.20	789	1.89	638																																																																																									
				****	1.80	712	1.57	706																																																																																									
				*****	1.16	459	0.89	851																																																																																									
0	1	2	3	4	Right Total	Right Total	Right Total	Right Total																																																																																									

### Form F Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code																																																																																								
F1RF140P	81	1	2	8	4	0.278	0.014	19.3	C+																																																																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>****FOCAL****</th> <th>****REFERENCE****</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">***</td> <td>3.24</td> <td>569</td> <td>3.03</td> <td>547</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>2.94</td> <td>683</td> <td>2.64</td> <td>667</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.66</td> <td>749</td> <td>2.43</td> <td>732</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>2.50</td> <td>745</td> <td>2.14</td> <td>676</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.26</td> <td>667</td> <td>1.97</td> <td>566</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>2.00</td> <td>599</td> <td>1.71</td> <td>637</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>1.64</td> <td>514</td> <td>1.37</td> <td>603</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>1.01</td> <td>355</td> <td>0.74</td> <td>666</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> </tr> </tbody> </table>										0	1	2	3	4	****FOCAL****	****REFERENCE****					***	3.24	569	3.03	547					*****	2.94	683	2.64	667					****	2.66	749	2.43	732					*****	2.50	745	2.14	676					****	2.26	667	1.97	566					*****	2.00	599	1.71	637					*****	1.64	514	1.37	603					*****	1.01	355	0.74	666	0	1	2	3	4	Right Total	Right Total	Right Total	Right Total
0	1	2	3	4	****FOCAL****	****REFERENCE****																																																																																											
				***	3.24	569	3.03	547																																																																																									
				*****	2.94	683	2.64	667																																																																																									
				****	2.66	749	2.43	732																																																																																									
				*****	2.50	745	2.14	676																																																																																									
				****	2.26	667	1.97	566																																																																																									
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				*****	1.01	355	0.74	666																																																																																									
0	1	2	3	4	Right Total	Right Total	Right Total	Right Total																																																																																									

### Form G Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code																																																																																								
G1RG140P	81	1	2	8	4	0.228	0.015	15.4	C+																																																																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>****FOCAL****</th> <th>****REFERENCE****</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>3.33</td> <td>662</td> <td>3.09</td> <td>640</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>2.94</td> <td>644</td> <td>2.70</td> <td>609</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">***</td> <td>2.68</td> <td>725</td> <td>2.46</td> <td>635</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">***</td> <td>2.34</td> <td>747</td> <td>2.14</td> <td>693</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">**</td> <td>2.11</td> <td>653</td> <td>1.89</td> <td>576</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*****</td> <td>1.93</td> <td>525</td> <td>1.63</td> <td>514</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">****</td> <td>1.53</td> <td>630</td> <td>1.31</td> <td>672</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">**</td> <td>0.95</td> <td>433</td> <td>0.77</td> <td>690</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> <td>Right Total</td> </tr> </tbody> </table>										0	1	2	3	4	****FOCAL****	****REFERENCE****					****	3.33	662	3.09	640					****	2.94	644	2.70	609					***	2.68	725	2.46	635					***	2.34	747	2.14	693					**	2.11	653	1.89	576					*****	1.93	525	1.63	514					****	1.53	630	1.31	672					**	0.95	433	0.77	690	0	1	2	3	4	Right Total	Right Total	Right Total	Right Total
0	1	2	3	4	****FOCAL****	****REFERENCE****																																																																																											
				****	3.33	662	3.09	640																																																																																									
				****	2.94	644	2.70	609																																																																																									
				***	2.68	725	2.46	635																																																																																									
				***	2.34	747	2.14	693																																																																																									
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				****	1.53	630	1.31	672																																																																																									
				**	0.95	433	0.77	690																																																																																									
0	1	2	3	4	Right Total	Right Total	Right Total	Right Total																																																																																									

## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

### Form H Sequence 113

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
H1RH113C										54	1	2	8	515.15	64.39	2.14	-1.8	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
-----*											0.50	660	0.70	786				
-----*											0.33	682	0.50	698				
-----*											0.22	545	0.41	513				
-----*											0.20	560	0.40	480				
-----*											0.16	786	0.30	634				
-----*											0.16	778	0.25	677				
-----*											0.11	588	0.20	612				
-----*											0.10	396	0.15	804				
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total					

### Form H Sequence 140

Constructed Response										Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
H1RH140P										81	1	2	8	4	0.198	0.015	13.2	C+
0	1	2	3	4	****FOCAL****		*REFERENCE**											
*+++											3.08	660	2.90	786				
*+++											2.74	682	2.46	698				
*+++											2.47	545	2.30	513				
*+++											2.26	560	2.09	480				
*+++											2.11	786	1.93	634				
*+++											1.83	778	1.64	677				
*+++											1.51	588	1.30	612				
*+++											0.94	352	0.73	746				
0	1	2	3	4	Right Total		Right Total											

### Form I Sequence 140

Constructed Response										Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
I1RI140P										81	1	2	8	4	0.237	0.015	16.3	C+
0	1	2	3	4	****FOCAL****		*REFERENCE**											
*+++											3.12	639	2.94	539				
*+++											2.82	545	2.54	502				
*+++											2.59	659	2.43	584				
*+++											2.40	843	2.17	756				
*+++											2.22	661	1.97	623				
*++++											2.00	670	1.67	698				
*+++											1.62	534	1.40	667				
*+++											1.09	426	0.85	739				
0	1	2	3	4	Right Total		Right Total											

### Form J Sequence 137

-Selected Response--										Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
J1RJ137C										78	1	2	8	833.86	104.23	2.22	-1.9	C-
0	1	2	3	4	5	6	7	8	9	0	****FOCAL****		*REFERENCE**					
-*											0.97	585	0.98	462				
-*											0.93	565	0.97	510				
-*											0.85	606	0.94	600				
-*											0.75	612	0.91	537				
-*											0.62	775	0.86	709				
-*											0.46	767	0.66	632				
-*											0.31	682	0.43	684				
-*											0.17	540	0.19	868				
0	1	2	3	4	5	6	7	8	9	0	Right Total		Right Total					







## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

Black / White

### Form D Sequence 123

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
D1RD123C		64	1	2	8	89.71	11.21	1.94	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0
										****FOCAL**** 0.78 9 0.87 1123 0.62 45 0.78 1323 0.53 57 0.73 986 0.51 70 0.70 939 0.41 108 0.61 1128 0.33 164 0.51 1096 0.22 206 0.38 802 0.19 250 0.20 711 Right Total Right Total

### Form E Sequence 139

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
E1RE139C		80	1	2	8	64.32	8.04	1.91	-1.5	C-
0	1	2	3	4	5	6	7	8	9	0
										****FOCAL**** 0.67 30 0.82 1114 0.37 27 0.69 917 0.29 52 0.51 1058 0.24 59 0.38 1034 0.13 70 0.30 939 0.09 167 0.22 1103 0.10 215 0.15 1040 0.14 286 0.14 904 Right Total Right Total

### Form F Sequence 129

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
F1RF129C		70	1	2	8	76.58	9.57	0.51	1.6	C+
0	1	2	3	4	5	6	7	8	9	0
										****FOCAL**** *+ 1.00 17 0.99 973 *+++ 1.00 38 0.95 1203 *+++ 0.92 62 0.86 1302 *+++++ 0.88 85 0.76 1232 *+++++ 0.85 111 0.60 1006 *+++++ 0.59 159 0.44 954 *+++++ 0.37 208 0.26 745 *+++++ 0.23 249 0.16 730 Right Total Right Total

### Form I Sequence 119

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
I1RI119C		60	1	2	8	72.22	9.03	2.09	-1.7	C-
0	1	2	3	4	5	6	7	8	9	0
										****FOCAL**** 0.72 29 0.85 1030 0.33 27 0.71 936 0.29 38 0.56 1108 0.34 65 0.42 1411 0.09 98 0.29 1053 0.08 155 0.17 1053 0.08 226 0.14 812 0.15 261 0.18 797 Right Total Right Total

## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

### Form J Sequence 109

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
J1RJ109C		50	1	2	8	69.76	8.72	0.52	1.5	C+
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
*   1.00   16   0.99   942										
*   0.96   25   0.97   968										
*+   0.97   31   0.94   1068										
*+++++   1.00   45   0.89   1011										
*+++++   0.87   94   0.79   1265										
*+++++   0.82   153   0.63   1119										
*+++++   0.62   205   0.42   987										
*+   0.24   322   0.21   868										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										

### Form L Sequence 103

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
L1RL103C		44	1	2	8	112.36	14.04	2.05	-1.7	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
-----*   0.76   25   0.85   1152										
-----*   0.46   24   0.77   996										
-----*   0.47   47   0.72   1070										
-----*   0.52   67   0.70   1062										
-----*   0.43   118   0.63   1213										
-----*   0.35   130   0.59   923										
-----*   0.40   252   0.52   1029										
-----*   0.18   293   0.26   795										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										

### Form L Sequence 118

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
L1RL118C		59	1	2	8	73.59	9.20	1.95	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL**** *REFERENCE**										
*   0.96   25   0.96   1152										
*++   0.96   24   0.92   996										
--*   0.83   47   0.87   1070										
--*   0.73   67   0.78   1062										
-----*   0.47   118   0.67   1213										
-----*   0.38   130   0.52   923										
-----*   0.21   252   0.37   1029										
-----*   0.10   293   0.17   795										
0	1	2	3	4	5	6	7	8	9	0
Right Total Right Total										





## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

Title 1 / Non-Title 1

### Form D Sequence 123

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
D1RD123C		64	2	1	8	88.33	11.04	1.91	-1.5	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL****										****REFERENCE**
							0.81	26	0.86	1214
							0.56	59	0.77	1428
							0.51	55	0.72	1066
							0.45	62	0.69	1038
							0.45	98	0.60	1242
							0.32	105	0.53	973
							0.24	188	0.39	1141
							0.20	235	0.21	955
0	1	2	3	4	5	6	7	8	9	0
Right Total										Right Total

### Form I Sequence 140

Constructed Response		Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
I1RI140P		81	2	1	8	4	-0.141	0.028	-5.1	C-
0	1	2	3	4						
****FOCAL****										****REFERENCE**
							3.00	30	3.04	1154
							2.47	36	2.69	1012
							2.41	34	2.52	1202
							2.20	45	2.33	1026
							2.07	101	2.17	1320
							1.79	136	1.94	1344
							1.44	172	1.60	1107
							0.88	269	1.02	1077
0	1	2	3	4						
Right Total										Right Total

### Form K Sequence 100

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
K1RK100C		41	2	1	8	97.65	12.21	1.95	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL****										****REFERENCE**
							0.90	29	0.99	1248
							0.97	58	0.98	1394
							0.95	40	0.97	999
							0.98	48	0.96	1068
							0.84	103	0.93	1256
							0.77	116	0.88	1099
							0.60	202	0.77	1188
							0.37	286	0.49	1035
0	1	2	3	4	5	6	7	8	9	0
Right Total										Right Total

### Form L Sequence 112

-Selected Response--		Seq	Ref	Focal	d.f.	ChiSq	M.S.	OddsRatio	Effect	Code
L1RL112C		53	2	1	8	80.84	10.11	1.96	-1.6	C-
0	1	2	3	4	5	6	7	8	9	0
****FOCAL****										****REFERENCE**
							1.00	33	0.99	1270
							0.92	26	0.99	1079
							0.94	53	0.98	1150
							0.90	52	0.98	1169
							0.91	102	0.96	1372
							0.85	111	0.93	1076
							0.75	189	0.86	1070
							0.40	299	0.52	1063
0	1	2	3	4	5	6	7	8	9	0
Right Total										Right Total

## Appendix V: 2002 PSSA DIF Plots Grade 11 Reading Items

### Economic Disadvantage / Economic Advantage

#### Form G Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
G1RG140P	81	2	1	8	4	-0.140	0.023	-6.1	C-
							****FOCAL****	****REFERENCE****	
0	1	2	3	4			3.17	46	3.21 1270
							2.59	71	2.84 1170
							2.48	104	2.58 1267
							2.25	152	2.24 1279
							1.82	159	2.03 1075
							1.72	184	1.81 844
							1.26	292	1.46 998
							0.74	313	0.89 773
0	1	2	3	4			Right Total		Right Total

#### Form H Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
H1RH140P	81	2	1	8	4	-0.141	0.024	-6.0	C-
							****FOCAL****	****REFERENCE****	
0	1	2	3	4			2.81	48	2.99 1393
							2.46	74	2.61 1313
							2.40	78	2.37 983
							2.19	99	2.17 943
							1.94	177	2.04 1236
							1.59	177	1.80 955
							1.40	302	1.53 1006
							0.74	368	0.95 869
0	1	2	3	4			Right Total		Right Total

#### Form I Sequence 140

Constructed Response	Seq	Ref	Focal	d.f.	M	SMD	SE	Z(SMD)	Code
I1RI140P	81	2	1	8	4	-0.137	0.023	-6.1	C-
							****FOCAL****	****REFERENCE****	
0	1	2	3	4			3.00	43	3.04 1141
							2.62	53	2.69 995
							2.44	62	2.53 1174
							2.31	80	2.32 991
							2.04	158	2.18 1263
							1.81	240	1.95 1240
							1.49	308	1.61 971
							0.87	444	1.06 902
0	1	2	3	4			Right Total		Right Total

**Appendix W: 2002 PSSA School Level Percentile Ranks**

Percentile Rank	Mathematics			Reading		
	Five	Eight	Eleven	Five	Eight	Eleven
1	770	860	770			830
2	900	910	820	920	950	910
3	990	950	870	980	1000	950
4	1040	970	900	1010	1040	980
5	1060	990	940	1040	1050	1000
6	1080	1020	960	1050	1060	1010
7	1110	1040	980	1080	1080	1020
8	1120	1060	1000	1100	1090	1030
9	1130	1080	1020	1110	1100	1050
10	1140	1090	1030	1130		1060
11	1150	1100	1040	1140	1110	
12	1170	1110	1060	1150	1130	1070
13	1180	1130	1070	1160		1080
14	1190	1140	1080	1170	1140	
15	1200	1150		1180	1150	1090
16	1210	1160	1090	1190	1160	
17	1220	1180		1200	1170	1100
18	1230	1190	1100	1210	1180	
19	1240	1200	1110		1190	1110
20		1210		1220	1200	1120
21	1250	1220	1120	1230	1210	
22			1130			1130
23	1260				1220	
24		1230	1140	1240		1140
25	1270	1240			1230	
26			1150	1250		
27			1160			1150
28	1280				1240	
29		1250	1170	1260		1160
30			1180		1250	
31	1290					1170
32		1260	1190	1270		
33						1180
34			1200		1260	
35	1300	1270	1210	1280	1270	1190
36						1200
37			1220			
38	1310					1210
39		1280	1230		1280	
40			1240	1290		1220
41						1230
42			1250		1290	
43	1320					1240
44		1290	1260	1300		
45						1250
46						
47			1270		1300	1260
48	1330	1300		1310		
49						1270
50			1280			

**Appendix W: 2002 PSSA School Level Percentile Ranks**

Percentile Rank	Mathematics			Reading		
	Five	Eight	Eleven	Five	Eight	Eleven
50			1280			
51						
52			1290	1320	1310	1280
53		1310				
54	1340					
55						
56			1300			1290
57		1320		1330	1320	
58						
59	1350					1300
60			1310			
61						
62		1330		1340		1310
63					1330	
64			1320			
65	1360					1320
66		1340		1350		
67			1330		1340	
68						1330
69						
70	1370			1360		
71		1350				
72						1340
73			1340	1370	1350	
74	1380					
75		1360				
76				1380	1360	1350
77			1350			
78	1390					
79		1370				1360
80			1360	1390	1370	
81						
82	1400	1380			1380	1370
83				1400		
84			1370			1380
85	1410					
86		1390		1410	1390	1390
87			1380			
88	1420	1400		1420		1400
89					1400	
90			1390	1430	1410	1410
91	1430	1410				
92		1420	1400	1440	1420	1420
93	1440			1450		
94		1430	1410		1430	1430
95	1450			1460	1440	1440
96	1460	1440	1420	1470	1450	1450
97	1470	1450	1430	1480	1460	1460
98	1480	1460	1440	1490	1470	1470
99	1500	1480	1460	1520	1490	1490



Appendix X: 2002 PSSA Percentile Rank Conversion Tables for Scaled Scores

Percentile Rank	Mathematics						Reading					
	Grade 5		Grade 8		Grade 11		Grade 5		Grade 8		Grade 11	
	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score
1	700	1	700	1	700	1	700	1	700	1	700	1
2	924	21	967	19	923	18	875	17	817	20	820	23
3	950	23	980	20	940	19	894	18	852	22	852	25
4	963	24	992	21	956	20	931	20	887	24	883	27
5	987	26	1004	22	972	21	949	21	919	26	913	29
6	999	27	1016	23	988	22	966	22	935	27	942	31
7	1011	28	1028	24			984	23	951	28	956	32
8	1022	29	1039	25	1003	23	1001	24	982	30	984	34
9	1033	30	1050	26	1018	24	1017	25	997	31	998	35
10	1044	31	1061	27			1034	26	1012	32	1012	36
11	1055	32	1071	28	1033	25	1050	27	1026	33	1039	38
12	1066	33	1082	29	1047	26	1067	28	1041	34	1052	39
13	1077	34					1083	29	1056	35	1066	40
14	1087	35	1092	30	1062	27					1079	41
15	1098	36	1102	31			1099	30	1070	36	1093	42
16	1108	37	1112	32	1075	28	1116	31	1085	37		
17					1089	29			1099	38	1106	43
18	1118	38	1121	33			1132	32			1119	44
19	1128	39	1131	34	1102	30			1113	39	1133	45
20	1138	40					1148	33	1128	40		
21			1140	35	1116	31					1146	46
22	1149	41	1150	36			1165	34	1142	41	1160	47
23	1159	42			1129	32			1157	42		
24			1159	37			1182	35			1173	48
25	1169	43	1168	38	1142	33			1171	43	1187	49
26	1179	44					1199	36				
27			1178	39	1155	34			1186	44	1200	50
28	1189	45	1187	40								
29					1168	35	1216	37	1200	45	1214	51
30	1199	46	1196	41	1180	36						
31	1209	47	1205	42					1215	46	1228	52
32					1193	37	1234	38				
33	1219	48	1214	43					1230	47	1241	53
34			1223	44	1206	38						
35	1229	49					1252	39			1255	54
36			1232	45	1218	39			1245	48		
37	1239	50										
38	1249	51	1241	46	1231	40			1260	49	1270	55
39			1251	47			1271	40				
40	1260	52			1243	41					1284	56
41			1260	48					1275	50		
42	1270	53			1255	42	1290	41				
43			1269	49					1291	51	1298	57
44	1281	54	1278	50	1268	43						
45												
46	1292	55	1287	51	1280	44			1306	52	1313	58
47							1309	42				
48	1303	56	1297	52	1292	45						
49									1322	53	1328	59
50	1314	57	1306	53	1305	46						

Appendix X: 2002 PSSA Percentile Rank Conversion Tables for Scaled Scores

Percentile Rank	Mathematics						Reading					
	Grade 5		Grade 8		Grade 11		Grade 5		Grade 8		Grade 11	
	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score	Scale Score	Raw Score
50	1314	57	1306	53	1305	46						
51			1316	54			1330	43				
52					1317	47			1338	54	1343	60
53	1325	58	1326	55								
54					1329	48						
55	1337	59	1335	56							1358	61
56					1341	49	1351	44	1355	55		
57	1349	60	1345	57								
58					1354	50					1374	62
59	1361	61	1356	58	1366	51			1372	56		
60			1366	59								
61					1378	52	1374	45			1390	63
62	1374	62	1376	60					1389	57		
63					1390	53						
64	1387	63	1387	61								
65					1402	54					1406	64
66	1400	64	1398	62			1397	46	1407	58		
67					1414	55						
68			1410	63	1426	56					1423	65
69	1414	65							1425	59		
70			1421	64	1438	57						
71	1429	66					1422	47			1440	66
72			1433	65	1450	58						
73					1462	59			1444	60		
74	1444	67	1446	66							1458	67
75					1474	60						
76	1460	68	1459	67			1449	48	1464	61		
77					1486	61						
78	1477	69	1472	68	1498	62					1476	68
79									1484	62		
80			1486	69	1511	63						
81	1494	70			1523	64	1477	49			1495	69
82			1501	70					1505	63		
83	1513	71			1536	65						
84			1517	71	1549	66					1515	70
85									1526	64		
86	1533	72	1534	72	1562	67	1508	50				
87					1576	68					1535	71
88	1555	73	1552	73	1590	69			1549	65		
89											1556	72
90	1579	74	1571	74	1605	70	1543	51	1573	66		
91			1593	75	1620	71					1578	73
92	1604	75			1637	72						
93			1616	76	1655	73	1581	52	1599	67	1602	74
94	1633	76			1674	74			1626	68		
95	1665	77	1642	77	1695	75					1627	75
96			1671	78	1718	76	1625	53	1655	69		
97	1701	78	1704	79	1772	78	1677	54	1686	70	1653	76
98	1743	79	1744	80	1806	79	1740	55	1720	71	1681	77
99	1853	81	1792	81	1893	81	1823	56	1757	72	1745	79

**Appendix Y: Reading 2002 PSSA Raw to Scale Score Conversion Table**

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	
	0	700	239	0.79	700	285	0.82	700	247	
1	700	199	0.95	700	237	0.99	700	296	0.83	1
2	700	146	1.30	700	169	1.38	700	175	1.40	2
3	700	121	1.57	700	141	1.66	700	145	1.69	3
4	700	108	1.76	700	122	1.93	700	125	1.97	4
5	700	98	1.93	700	111	2.11	700	114	2.16	5
6	700	91	2.08	700	103	2.27	700	105	2.33	6
7	700	85	2.22	700	97	2.42	700	99	2.49	7
8	700	80	2.38	700	92	2.55	700	93	2.63	8
9	700	76	2.48	700	87	2.68	700	89	2.76	9
10	712	73	2.58	700	84	2.79	700	84	2.93	10
11	739	71	2.68	700	80	2.93	700	81	3.03	11
12	765	69	2.76	700	78	3.02	700	78	3.12	12
13	789	67	2.84	700	76	3.10	700	76	3.21	13
14	812	65	2.92	700	74	3.18	700	74	3.30	14
15	834	64	2.98	716	72	3.26	700	73	3.38	15
16	855	62	3.06	738	70	3.33	700	71	3.45	16
17	875	61	3.11	758	69	3.39	712	70	3.52	17
18	894	60	3.15	778	68	3.45	732	68	3.59	18
19	913	59	3.20	798	67	3.51	750	67	3.65	19
20	931	59	3.23	817	66	3.57	768	66	3.71	20
21	949	58	3.27	835	65	3.62	786	65	3.79	21
22	966	57	3.30	852	64	3.66	803	64	3.83	22
23	984	57	3.33	870	63	3.71	820	63	3.87	23
24	1001	57	3.35	887	62	3.77	836	63	3.91	24
25	1017	56	3.37	903	62	3.80	852	62	3.95	25
26	1034	56	3.39	919	61	3.83	868	62	3.98	26
27	1050	56	3.40	935	61	3.86	883	61	4.01	27
28	1067	56	3.41	951	60	3.89	898	61	4.04	28
29	1083	56	3.41	966	60	3.91	913	60	4.07	29
30	1099	56	3.41	982	60	3.93	927	60	4.10	30
31	1116	56	3.41	997	59	3.95	942	59	4.13	31
32	1132	56	3.40	1012	59	3.97	956	59	4.15	32
33	1148	56	3.38	1026	59	3.99	970	59	4.17	33
34	1165	56	3.37	1041	59	4.00	984	58	4.19	34
35	1182	57	3.35	1056	58	4.01	998	58	4.21	35
36	1199	57	3.32	1070	58	4.02	1012	58	4.22	36
37	1216	58	3.29	1085	58	4.03	1025	58	4.24	37
38	1234	58	3.26	1099	58	4.03	1039	58	4.25	38
39	1252	59	3.22	1113	58	4.03	1052	58	4.26	39
40	1271	60	3.18	1128	58	4.03	1066	57	4.27	40
41	1290	60	3.14	1142	58	4.03	1079	57	4.27	41
42	1309	61	3.10	1157	58	4.03	1093	57	4.28	42
43	1330	63	3.01	1171	58	4.03	1106	57	4.28	43
44	1351	64	2.95	1186	58	4.01	1119	57	4.28	44
45	1374	66	2.88	1200	59	4.00	1133	57	4.28	45
46	1397	68	2.80	1215	59	3.98	1146	57	4.28	46

**Appendix Y: Reading 2002 PSSA Raw to Scale Score Conversion Table**

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	
47	1422	70	2.72	1230	59	3.97	1160	57	4.27	47
48	1449	72	2.63	1245	59	3.95	1173	57	4.26	48
49	1477	75	2.54	1260	60	3.93	1187	58	4.25	49
50	1508	78	2.44	1275	60	3.91	1200	58	4.24	50
51	1543	83	2.29	1291	60	3.88	1214	58	4.23	51
52	1581	88	2.15	1306	61	3.86	1228	58	4.20	52
53	1625	95	2.00	1322	61	3.83	1241	58	4.20	53
54	1677	103	1.84	1338	62	3.80	1255	59	4.18	54
55	1740	115	1.65	1355	62	3.77	1270	59	4.15	55
56	1823	136	1.40	1372	63	3.70	1284	59	4.13	56
57	1944	168	1.13	1389	64	3.66	1298	60	4.11	57
58	2143	217	0.87	1407	65	3.61	1313	60	4.08	58
59	2403	242	0.78	1425	66	3.56	1328	60	4.05	59
60	2630	290	0.65	1444	67	3.50	1343	61	4.02	60
61				1464	68	3.45	1358	61	3.99	61
62				1484	69	3.38	1374	62	3.96	62
63				1505	71	3.32	1390	63	3.92	63
64				1526	72	3.25	1406	63	3.88	64
65				1549	74	3.18	1423	64	3.80	65
66				1573	76	3.10	1440	65	3.75	66
67				1599	78	3.02	1458	66	3.70	67
68				1626	80	2.93	1476	67	3.64	68
69				1655	84	2.80	1495	69	3.58	69
70				1686	87	2.69	1515	70	3.51	70
71				1720	91	2.57	1535	71	3.44	71
72				1757	96	2.44	1556	73	3.37	72
73				1799	102	2.31	1578	74	3.29	73
74				1846	108	2.16	1602	76	3.21	74
75				1901	117	2.00	1627	78	3.12	75
76				1967	131	1.79	1653	81	3.03	76
77				2050	148	1.58	1681	83	2.94	77
78				2162	177	1.33	1712	88	2.78	78
79				2345	244	0.96	1745	92	2.66	79
80				2626	293	0.80	1781	97	2.53	80
81							1822	103	2.39	81
82							1868	110	2.24	82
83							1922	118	2.07	83
84							1987	132	1.85	84
85							2068	151	1.63	85
86							2179	180	1.36	86
87							2362	251	0.98	87
88							2656	301	0.81	88

**Appendix Z: Mathematics 2002 PSSA Raw to Scale Score Conversion Table**

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	
	0	700	222	0.83	700	214	0.83	700	252	
1	700	185	0.99	700	179	1.00	700	210	0.99	1
2	700	132	1.40	700	127	1.41	700	150	1.38	2
3	700	110	1.67	700	105	1.69	700	125	1.66	3
4	700	96	1.90	700	92	1.92	700	110	1.89	4
5	700	86	2.13	700	82	2.16	700	98	2.11	5
6	700	80	2.29	713	76	2.33	700	91	2.27	6
7	700	75	2.44	744	72	2.48	700	86	2.41	7
8	700	71	2.58	772	68	2.63	700	81	2.55	8
9	711	68	2.71	796	65	2.76	725	78	2.67	9
10	735	65	2.82	819	62	2.88	753	74	2.78	10
11	758	63	2.93	839	59	2.99	779	71	2.93	11
12	778	60	3.07	859	57	3.14	803	69	3.02	12
13	798	58	3.15	877	55	3.23	825	67	3.10	13
14	816	57	3.23	893	54	3.31	847	65	3.18	14
15	833	56	3.31	910	52	3.39	867	64	3.25	15
16	850	54	3.38	925	51	3.47	886	62	3.32	16
17	866	53	3.45	939	50	3.54	905	61	3.39	17
18	881	52	3.51	953	49	3.61	923	60	3.45	18
19	896	51	3.57	967	48	3.68	940	59	3.50	19
20	910	51	3.63	980	48	3.74	956	58	3.56	20
21	924	50	3.69	992	47	3.80	972	57	3.61	21
22	937	49	3.74	1004	46	3.85	988	57	3.66	22
23	950	49	3.79	1016	46	3.91	1003	56	3.70	23
24	963	48	3.83	1028	45	3.96	1018	55	3.74	24
25	975	47	3.88	1039	44	4.00	1033	55	3.78	25
26	987	47	3.92	1050	44	4.05	1047	54	3.82	26
27	999	46	3.98	1061	43	4.12	1062	53	3.87	27
28	1011	46	4.02	1071	43	4.15	1075	53	3.90	28
29	1022	45	4.05	1082	43	4.19	1089	53	3.92	29
30	1033	45	4.07	1092	42	4.22	1102	53	3.94	30
31	1044	45	4.10	1102	42	4.24	1116	52	3.96	31
32	1055	45	4.13	1112	42	4.27	1129	52	3.98	32
33	1066	44	4.15	1121	41	4.30	1142	52	4.00	33
34	1077	44	4.17	1131	41	4.32	1155	52	4.02	34
35	1087	44	4.19	1140	41	4.34	1168	51	4.03	35
36	1098	44	4.21	1150	41	4.36	1180	51	4.04	36
37	1108	43	4.23	1159	41	4.38	1193	51	4.05	37
38	1118	43	4.24	1168	41	4.39	1206	51	4.06	38
39	1128	43	4.25	1178	40	4.40	1218	51	4.07	39
40	1138	43	4.27	1187	40	4.41	1231	51	4.08	40
41	1149	43	4.27	1196	40	4.42	1243	51	4.09	41
42	1159	43	4.28	1205	40	4.42	1255	51	4.09	42
43	1169	43	4.28	1214	40	4.43	1268	51	4.10	43
44	1179	43	4.29	1223	40	4.42	1280	50	4.10	44
45	1189	43	4.28	1232	40	4.42	1292	50	4.10	45
46	1199	43	4.28	1241	40	4.42	1305	50	4.11	46

**Appendix Z: Mathematics 2002 PSSA Raw to Scale Score Conversion Table**

Raw Score	Grade 5			Grade 8			Grade 11			Raw Score
	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score SEM	
47	1209	43	4.27	1251	40	4.41	1317	50	4.11	47
48	1219	43	4.27	1260	40	4.40	1329	50	4.12	48
49	1229	43	4.25	1269	41	4.39	1341	50	4.12	49
50	1239	43	4.24	1278	41	4.38	1354	50	4.12	50
51	1249	44	4.22	1287	41	4.36	1366	50	4.13	51
52	1260	44	4.20	1297	41	4.34	1378	50	4.13	52
53	1270	44	4.17	1306	41	4.32	1390	50	4.14	53
54	1281	44	4.15	1316	41	4.30	1402	50	4.14	54
55	1292	45	4.12	1326	42	4.28	1414	50	4.15	55
56	1303	45	4.08	1335	42	4.25	1426	50	4.15	56
57	1314	45	4.05	1345	42	4.22	1438	50	4.15	57
58	1325	46	4.01	1356	42	4.19	1450	50	4.15	58
59	1337	46	3.98	1366	43	4.16	1462	50	4.15	59
60	1349	47	3.90	1376	43	4.12	1474	50	4.14	60
61	1361	48	3.84	1387	44	4.04	1486	50	4.13	61
62	1374	49	3.79	1398	45	3.99	1498	50	4.11	62
63	1387	49	3.73	1410	45	3.94	1511	51	4.09	63
64	1400	50	3.66	1421	46	3.88	1523	51	4.05	64
65	1414	51	3.59	1433	47	3.81	1536	52	4.01	65
66	1429	52	3.52	1446	48	3.75	1549	52	3.97	66
67	1444	53	3.45	1459	48	3.67	1562	53	3.91	67
68	1460	55	3.37	1472	50	3.59	1576	54	3.85	68
69	1477	56	3.28	1486	51	3.51	1590	55	3.79	69
70	1494	57	3.20	1501	52	3.42	1605	56	3.72	70
71	1513	59	3.11	1517	53	3.33	1620	57	3.64	71
72	1533	61	3.01	1534	55	3.23	1637	59	3.48	72
73	1555	64	2.86	1552	57	3.13	1655	62	3.36	73
74	1579	67	2.74	1571	60	2.96	1674	64	3.23	74
75	1604	70	2.61	1593	63	2.84	1695	67	3.10	75
76	1633	74	2.48	1616	66	2.70	1718	70	2.95	76
77	1665	79	2.34	1642	70	2.56	1743	74	2.80	77
78	1701	84	2.19	1671	74	2.40	1772	80	2.58	78
79	1743	90	2.04	1704	79	2.24	1806	86	2.40	79
80	1792	100	1.84	1744	86	2.06	1845	94	2.20	80
81	1853	111	1.66	1792	98	1.82	1893	105	1.98	81
82	1929	126	1.46	1854	112	1.59	1955	122	1.70	82
83	2030	147	1.25	1939	134	1.33	2042	148	1.40	83
84	2189	198	0.93	2080	187	0.95	2188	208	0.99	84
85	2409	238	0.77	2293	224	0.79	2437	250	0.83	85