Technical Analysis

PENNSYLVANIA
SYSTEM OF SCHOOL ASSESSMENT

2005 GRADE 12 FALL RETEST
MATHEMATICS, READING, AND WRITING

DATA RECOGNITION CORPORATION

FEBRUARY 2006

2005 GRADE 12 PSSA FALL RETEST
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PSSA: THE PENNSYLVANIA SYSTEM OF SCHOOL ASSESSMENT

The purposes of the 2005 statewide assessment component of the Pennsylvania System of School Assessment, as specified in the Chapter 4 Regulations, include providing:

(1) an understanding of the students' 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, Area Vocational Technical Schools, Intermediate Units, Private Residential Rehabilitative Institutions, Approved Private Schools, non-public schools 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) aggregate results for all students and in compliance with federal No Child Left Behind regulations, disaggregated results for various demographic and special needs groups.

The broad purpose of the state assessments is to provide information to teachers and schools to guide the improvement of curricula and instructional strategies to enable students to achieve the academic standards. The areas assessed in 2005 are mathematics and reading at grades 5, 8, and 11, and writing at grade 11. *The Department strongly discourages the use of this testing information for "ranking" schools.*

SUMMARY OF THE GRADE 12 RETEST RESULTS

Students in the twelfth grade are allowed a final opportunity to improve their status with respect to the Advanced/Proficient certification for Mathematics, Reading, and Writing. This opportunity is provided through a special fall administration of the PSSA. The 2005 retest consisted of the common sections from the 2005 grade eleven spring administration and, therefore, the raw-to-scaled score conversion tables were established prior to the fall testing. The tables for Mathematics, Reading, and Writing can be found in Appendices J, K, and L, respectively.

Students generally performed relatively less well on the retest than in the previous spring in all three content areas. These results are to be expected as this is a retest situation, and thus the group selected for the retest is typically comprised of those students who have performed poorly on the previous administration. In addition to the mean scores being lower than those for the spring group, the standard deviations are also lower. Smaller standard deviations are the result of a more homogeneous student group (a reflection of the process by which students are selected for the fall testing). The relatively low test reliabilities for Reading and Mathematics can also be attributed to the decreased variability.

Table 1: Operational and Retest Summary Statistics (Scaled Score Metric)

	Mathematics		Reading		Writing	
	Operational	Retest	Operational	Retest	Operational	Retest
Count	131,289	31,325	130,873	20,247	131,591	15,342
Mean	1340	1154.20	1360	1146.17	1281.78	1150.77
Std. Err. of Mean	0.996	0.909	1.081	1.600	0.516	1.314
Median	1301	1163	1356	1157	1309	1141
Std. Deviation	288.3	160.88	316.5	227.00	187.286	162.77
Range	1740	1479	1746	1746	1260	1260
Minimum	700	700	700	700	700	700
Maximum	2440	2179	2446	2446	1960	1960
Reliability	0.95	0.86	0.94	0.88	0.93	0.91

For Mathematics, 63.9% of the students remained at the same performance level while 27.4% improved to a higher level and 8.7% fell to a lower level (basic to below basic). For Reading, 47.4% of the students stayed at the same level, 44.8% improved, and 7.8% decreased (basic to below basic). For Writing, 42.4% of the students remained at the same level, 43.8% improved, and 13.8% decreased (basic to below basic).

In 2002, a minimum scaled score of 700 was implemented for all PSSA Mathematics, Reading, and Writing assessments. In general, it is possible for several raw scores to convert to a scaled score of 700. Because very few students are involved, this policy has minimal effect on the overall results. More details on the scores can be found in the raw-to-scaled score conversion tables in the appendices.

Figures 1, 2, and 3 show the frequency distributions for Mathematics, Reading, and Writing, respectively. All figures reflect the same information shown in Table 1. All figures show a highly peaked distribution consisting of relatively low scores.

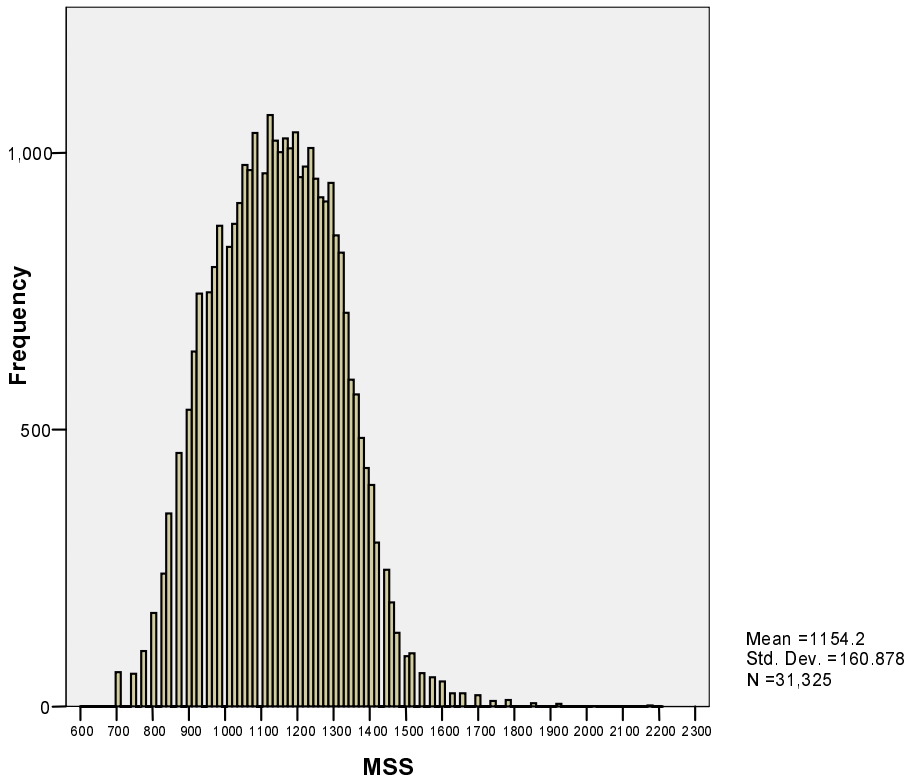

Figure 1: Mathematics Retest Scaled Score Frequency Distribution

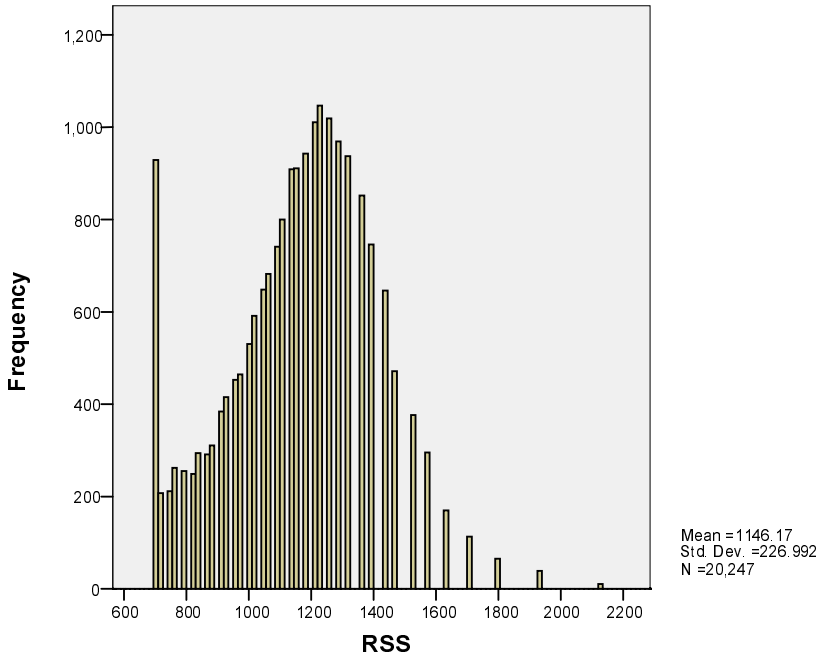

Figure 2: Reading Retest Scaled Score Frequency Distribution

Because of the nature of the handscoring process, the Pennsylvania Department of Education established the policy that any student with a raw score within 3 points of the minimum required for proficiency would be rescored. The final Writing score for these students would be the higher of the two scores. The distribution of scaled scores after the rescoring is shown in Figure 3. The correlation between readers 1 and 2 by prompt and domain for Writing can be found in Appendix I.

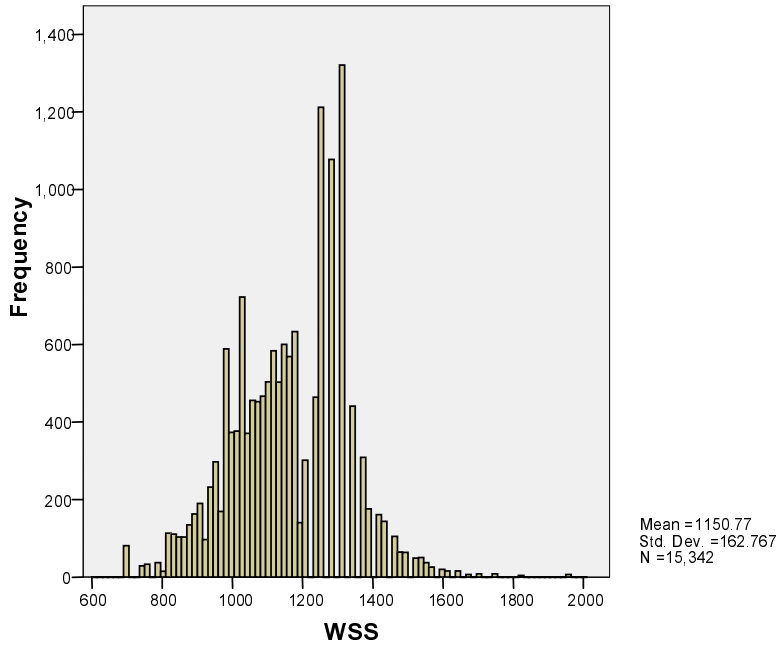

Figure 3: Writing Retest Scaled Score Frequency Distribution after Rescores

ITEM ANALYSIS

Multiple-Choice Items

Although all items had been reviewed several times prior to testing, 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*[1] students are expected to pass easy items and *less able* students are expected to fail difficult items. If either of these situations do 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 negative if there is a *more able* way to fail the items, or a *less able* way to pass it.

[1] 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 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, the item may appear surprisingly easy.

The item level analyses done for the PSSA (and the grade 12 retest) also included the percent of students selecting each incorrect response (distractor). 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 responses are particularly attractive. Item level statistics for the multiple-choice items for Mathematics and Reading can be found in Appendices A and D respectively.

Constructed-Response Items

The first statistics that should be examined when addressing the quality of constructed-response items is the score-point distribution. An examination of the score-point distribution (percentages of students in each scoring category) can provide a rough "snapshot" of an item's quality. For example, a four-point constructed-response item with a vast majority of students receiving *ones* and *fours* with virtually no scores occurring in between would be considered highly suspect. Item level statistics for the constructed-response items for Mathematics and Reading can be found in Appendices C and F respectively. The item level statistics for the Writing prompts can be found in Appendix G. Domain level statistics for Writing can be found in Appendix H.

EXAMINING THE LINK

The Fall 2005 Grade 12 Retest for Mathematics, Reading, and Writing is a re-administration of the Spring 2005 Grade 11 tests. As such, the forms have already been calibrated and the raw scores converted to the common scaled score metric with the equated cut scores. The analysis of the Grade 12 Retest is conducted to ensure that the student's responses to the three test forms are in keeping with the previous administration and that no change in the raw-to-scaled score conversion tables are necessary. Because this is a re-administration of a previously administered form, the Grade 12 Retest offers a unique opportunity to test the fundamental properties of the psychometric model that is used for the PSSA testing program.

One of the fundamental requirements of Rasch measurement that must hold for the properties of the model to apply is the invariance of the item parameters with respect to the distribution of the incidental parameters. In this case, the Spring 2005 and Fall 2005 administrations of the three tests provide two sets of item parameter estimates for each test. The distribution of the person parameter is different for the two administrations because the spring administration is a full census administration and the fall administration is a retest available generally to students who missed the spring administration or students who did not achieve proficient status on the spring administration. This provides an ideal opportunity to test the invariance property with a full operational form.

There are several ways to achieve this comparison of the item parameter estimates. The most direct is to anchor the Fall 2005 item calibration to the Spring 2005 operational item difficulty estimates. This is accomplished in WINSTEPS through the use of the anchor files. Because the Mathematics and Reading tests are a combination of dichotomously scored multiple-choice items and polychotomously scored constructed-response items, it is necessary to use both an item anchor file and a threshold anchor file in the anchored calibration. WINSTEPS then uses the anchor files to fix the item and threshold difficulties in the calibration. As a test of the invariance

property, WINSTEPS also calculates the item difficulty of the item if that item had not been anchored. The displacement of the item, the difference between the anchored and unanchored item difficulty, is calculated.

The magnitude of the displacement can be evaluated in several ways. The size of the displacement can be evaluated based on the magnitude of the change in some heuristic sense (i.e., changes of 0.3 logits or larger represent an important change). The displacement can also be evaluated as a *t*-statistic. The *t*-statistic can be calculated by dividing the displacement by two (or three depending on the Type I error rate that is desired) times the standard error of estimate for the unanchored item difficulty. This assumes that the anchored value is known, not estimated. This assumption is not unwarranted since the anchored values are based on the calibration of the full sample (approximately 150,000 students) from the spring administration, and the standard error of estimate would be in the 0.01 to 0.02 range.

The results of the anchored calibration for the Mathematics test are shown in Appendix B. Of the 54 multiple-choice items calibrated for the fall assessment, 14 (26%) were more than 0.2 logits from their spring calibration estimates. The standard error of estimation for the item difficulties in this calibration was approximately 0.0122, so these items were 15 standard errors apart at a minimum.

Table 2: Item Displacement (in Logits)

Displacement	Mathematics Items	Reading Items
$\|Disp\| \geq 0.60$	1	1
$0.50 \leq \|Disp\| < 0.60$	0	0
$0.40 \leq \|Disp\| < 0.50$	3	1
$0.30 \leq \|Disp\| < 0.40$	4	7
$0.20 \leq \|Disp\| < 0.30$	6	8
Total	**14 (26%)**	**17 (42.5%)**

The results of the anchored calibration for the Reading test are shown in Appendix E. Of the 40 multiple-choice items calibrated for the fall assessment, 17 (42.5%) were more than 0.2 logits from their spring calibration estimates. The standard error of estimate for item difficulties in this calibration was approximately 0.017, so these items were 13 standard errors apart at a minimum. The calibration standard errors are small, reflecting the calibration sample sizes of 31,325 for Mathematics and 20,247 for Reading. With large sample sizes, the relative magnitude of the differences needs to be considered. It is not always the case that statistical significance will translate into practical significance.

The implications of these results do not relate to the interpretation of these test results. These test forms used exactly the same items and standards as the Spring 2005 administration. The implication will arise when the items from the Spring 2005 administration are used to anchor the Fall 2005 administration. It is always necessary in anchoring to transfer the origin of one scale to subsequent scales so that the interpretation of the standards remains the same. As there is always error in our parameter estimates from administration to administration there will always be shifts in the item parameter estimates. As long as the positive changes cancel out the negative shifts,

the transfer of the origin is not impacted and the standards remain consistent over administrations. The evidence here suggests that there are both positive and negative shifts, and if these results were used in equating, the estimation of the equating constant would not be impacted. The issue here is the magnitude of the shifts. The shifts observed with this administration are larger than the standard errors would lead one to expect. Although there do not appear to be systematic patterns in the shifts that would impact equating, it is probably wise to monitor the magnitude of the shifts over time to try to determine at what point the magnitude of the shifts becomes problematic.

RAW-TO-SCALED SCORE CONVERSIONS

A *Scaled Score*, in the simplest sense, is a transformed number correct score. This transformation 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. When all students take the same items, as in the common sections of the PSSA (or all items on the Grade 12 Fall Retest), 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 30 is almost meaningless unless the reader is also told how many points were possible. The same score has quite a different meaning 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*.

Table 3 describes the equations used to transform the logit scores to the scaled scores.

Table 3: Logit-to-Scaled Score Conversions

Subject	Transformation
Mathematics	(206 x Logit) + 1203
Reading	(245 x Logit) + 1115
Writing	(111 x Logit) + 1133

On the surface, a scaled score of 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 point. Useful anchors might be the freezing point of water or perhaps the normal body temperature of humans. To be meaningful, the new metric must be related to known objects and situations – in other words, some sort of *measurement standard.* The next section of this report provides a description of the results in the context of these *performance standards*.

PERFORMANCE LEVEL RESULTS

As stated above, in order for scaled scores to be meaningful to the reader, they must be related to some sort of performance standards. The Commonwealth of Pennsylvania has developed four general Performance Level Descriptors, which are described in Table 4.

Table 4: Performance Level Descriptors

Level	Description
Advanced	The Advanced Level reflects superior academic performance. Advanced work indicates an in-depth understanding and exemplary display of the skills included in the Pennsylvania Academic Standards.
Proficient	The Proficient Level reflects satisfactory academic performance. Proficient work indicates a solid understanding and adequate display of the skills included in the Pennsylvania Academic Standards.
Basic	The Basic Level reflects marginal academic performance. Basic work indicates a partial understanding and limited display of the skills in the Pennsylvania Academic Standards. This work is approaching satisfactory performance but has not yet reached it. There is a need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level.
Below Basic	The Below Basic Level reflects inadequate academic performance. Below Basic work indicates little understanding and minimal display of the skills included in the Pennsylvania Academic Standards. There is a major need for additional instructional opportunities and/or increase student academic commitment to achieve the Proficient Level.

The scores that correspond with each performance level are located in Table 5 below. The cumulative percentage of students who achieved a Proficient or Advanced performance level for Mathematics, Reading, and Writing are 17.0, 32.8, and 27.4, respectively. The scores indicate that approximately 70%-80% of the students who took the retest still scored in the Basic or Below Basic levels for each subject level.

Table 5: Grade 12 Retest Performance Standards

	Mathematics			
Performance Level	**2005 Raw Score Cut Point**	**Scaled Score**	**Frequency**	**Percent in Category**
Advanced	53	1490 and above	358	1.1%
Proficient	41	1310 – 1489	4,956	15.9%
Basic	31	1180 – 1309	9,567	30.5%
Below Basic		1179 and below	16,444	52.5%

	Reading			
Performance Level	**2005 Raw Score Cut Point**	**Scaled Score**	**Frequency**	**Percent in Category**
Advanced	45	1520 and above	1,070	5.3%
Proficient	38	1290 – 1519	5,640	27.5%
Basic	33	1140 – 1289	4,821	23.9%
Below Basic		1139 and below	8,716	43.0%

	Writing			
Performance Level	**2005 Raw Score Cut Point**	**Scaled Score**	**Frequency**	**Percent in Category**
Advanced	72	1563 and above	113	0.7%
Proficient	58	1236 – 1562	4,148	26.7%
Basic	49	1088 – 1235	5,402	34.8%
Below Basic		1087 and below	5,882	37.8%

Appendix A:

2005 Grade 12 Fall Mathematics Retest
Multiple-Choice Item Statistics

Appendix A: 2005 Grade 12 Fall Mathematics Retest

Multiple-Choice Item Statistics

Item	Key	P-Value	PtBis	% A	% B	% C	% D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
O1	C	0.5353	0.2801	0.1612	0.0418	0.5353	0.2609	0.0007	0.0001	-0.1296	-0.1113	0.2801	-0.1576
O2	C	0.6306	0.3803	0.0563	0.2207	0.6306	0.0906	0.0017	0.0001	-0.1371	-0.2806	0.3803	-0.1207
O3	B	0.4663	0.3643	0.0759	0.4663	0.2091	0.2472	0.0013	0.0001	-0.0636	0.3643	-0.1134	-0.2730
O4	B	0.4635	0.2803	0.1553	0.4635	0.2460	0.1341	0.0011	0.0000	-0.1969	0.2803	-0.0246	-0.1683
O5	B	0.7242	0.4655	0.0421	0.7242	0.0403	0.1924	0.0011	0.0000	-0.0807	0.4655	-0.1947	-0.3866
O6	C	0.6409	0.3020	0.0668	0.2448	0.6409	0.0426	0.0048	0.0001	-0.1470	-0.1917	0.3020	-0.1226
O7	C	0.6173	0.4330	0.0802	0.2126	0.6173	0.0883	0.0015	0.0001	-0.2883	-0.3034	0.4330	-0.0227
O8	B	0.3113	0.2098	0.1747	0.3113	0.2444	0.2495	0.0198	0.0002	-0.0250	0.2098	-0.0863	-0.1258
O9	A	0.5885	0.3475	0.5885	0.1544	0.2220	0.0327	0.0023	0.0001	0.3475	-0.0531	-0.2875	-0.1760
O10	D	0.5907	0.3468	0.0723	0.2534	0.0819	0.5907	0.0014	0.0002	-0.2320	-0.1359	-0.1824	0.3468
O11	B	0.2451	0.2001	0.2108	0.2451	0.1121	0.4263	0.0055	0.0002	-0.0201	0.2001	-0.0712	-0.1135
O12	C	0.5774	0.2586	0.1012	0.2271	0.5774	0.0873	0.0069	0.0001	-0.0557	-0.1643	0.2586	-0.1452
O13	C	0.3545	0.2526	0.1893	0.2244	0.3545	0.2277	0.0040	0.0000	-0.0930	-0.2148	0.2526	0.0161
O14	D	0.7320	0.4002	0.0757	0.1081	0.0810	0.7320	0.0033	0.0001	-0.1774	-0.2305	-0.2106	0.4002
O15	B	0.5099	0.3172	0.1241	0.5099	0.0419	0.3221	0.0019	0.0001	-0.3062	0.3172	-0.1706	-0.0466
O16	C	0.3163	0.2089	0.2239	0.3475	0.3163	0.1062	0.0059	0.0002	-0.2433	0.0059	0.2089	0.0123
O17	D	0.2564	0.1631	0.3884	0.0729	0.2787	0.2564	0.0035	0.0001	0.1144	-0.1832	-0.1722	0.1631
O18	D	0.6703	0.4227	0.0184	0.0351	0.2751	0.6703	0.0011	0.0000	-0.1424	-0.2173	-0.3103	0.4227
O19	C	0.6620	0.3642	0.0411	0.0816	0.6620	0.2121	0.0031	0.0001	-0.1681	-0.1618	0.3642	-0.2271
O20	D	0.4485	0.4035	0.1876	0.2538	0.1064	0.4485	0.0037	0.0000	-0.1114	-0.2720	-0.1197	0.4035
O21	B	0.7660	0.3299	0.1226	0.7660	0.0804	0.0271	0.0038	0.0000	-0.1433	0.3299	-0.2303	-0.1750
O22	D	0.7386	0.3527	0.0233	0.0316	0.2057	0.7386	0.0007	0.0001	-0.1453	-0.2082	-0.2372	0.3527
O23	C	0.3609	0.3893	0.2725	0.3131	0.3609	0.0469	0.0065	0.0001	-0.2415	-0.1570	0.3893	-0.0310
O24	C	0.8199	0.2964	0.0158	0.0858	0.8199	0.0776	0.0009	0.0001	-0.1468	-0.1643	0.2964	-0.1821
O25	D	0.4447	0.3713	0.1257	0.2007	0.2265	0.4447	0.0022	0.0002	-0.1997	-0.1521	-0.1331	0.3713
O26	A	0.5920	0.4112	0.5920	0.2127	0.1061	0.0863	0.0027	0.0002	0.4112	-0.1933	-0.2379	-0.1702
O27	A	0.4734	0.3390	0.4734	0.3276	0.1268	0.0683	0.0037	0.0002	0.3390	-0.1665	-0.1642	-0.1375
O28	C	0.7406	0.3925	0.1069	0.0754	0.7406	0.0720	0.0049	0.0002	-0.2200	-0.1697	0.3925	-0.2183
O29	A	0.3520	0.3632	0.3520	0.3331	0.1504	0.1609	0.0034	0.0001	0.3632	-0.0343	-0.2322	-0.1942
O30	D	0.4666	0.5023	0.1732	0.2230	0.1314	0.4666	0.0057	0.0002	-0.2310	-0.2473	-0.1703	0.5023
O31	B	0.3259	0.1873	0.5255	0.3259	0.0925	0.0517	0.0043	0.0001	0.0026	0.1873	-0.1875	-0.1443
O32	C	0.3617	0.3120	0.1100	0.4205	0.3617	0.1037	0.0039	0.0003	-0.1122	-0.2198	0.3120	-0.0100
O33	A	0.5733	0.3917	0.5733	0.1079	0.1581	0.1541	0.0064	0.0003	0.3917	-0.1528	-0.2109	-0.1847
O34	C	0.4877	0.3878	0.0966	0.2409	0.4877	0.1654	0.0090	0.0004	-0.1955	-0.2357	0.3878	-0.0847
O35	A	0.4164	0.3276	0.4164	0.1676	0.1988	0.2096	0.0073	0.0003	0.3276	-0.0974	-0.2226	-0.0774
O36	B	0.3544	0.3391	0.2667	0.3544	0.2237	0.1471	0.0079	0.0003	-0.1882	0.3391	-0.1071	-0.0862

Appendix A: 2005 Grade 12 Fall Mathematics Retest

Multiple-Choice Item Statistics

Item	Key	P-Value	PtBis	% A	% B	% C	% D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
O37	B	0.6094	0.4134	0.2123	0.6094	0.1241	0.0495	0.0043	0.0004	-0.2626	0.4134	-0.1492	-0.1873
O38	A	0.1920	0.1830	0.1920	0.2708	0.2394	0.2836	0.0140	0.0002	0.1830	-0.0293	-0.1152	-0.0143
O39	C	0.4210	0.4442	0.0882	0.1114	0.4210	0.3747	0.0046	0.0001	-0.2097	-0.2083	0.4442	-0.1855
O40	D	0.3955	0.3047	0.1045	0.4006	0.0948	0.3955	0.0043	0.0003	-0.2240	-0.0210	-0.2241	0.3047
O41	C	0.7115	0.4728	0.1264	0.1082	0.7115	0.0484	0.0053	0.0003	-0.2578	-0.2675	0.4728	-0.1857
O42	B	0.6151	0.3389	0.2560	0.6151	0.0618	0.0627	0.0041	0.0004	-0.1815	0.3389	-0.2067	-0.1246
O43	B	0.1905	0.1451	0.5056	0.1905	0.1879	0.1087	0.0068	0.0004	0.0793	0.1451	-0.1651	-0.0859
O44	C	0.5050	0.4648	0.1963	0.1749	0.5050	0.1173	0.0063	0.0002	-0.2511	-0.2660	0.4648	-0.0793
O45	D	0.2730	0.3403	0.2963	0.1908	0.2300	0.2730	0.0098	0.0002	-0.0509	-0.1311	-0.1703	0.3403
O46	D	0.4658	0.2971	0.1856	0.1899	0.1514	0.4658	0.0069	0.0003	-0.1346	-0.1422	-0.0949	0.2971
O47	C	0.5791	0.3668	0.1270	0.1373	0.5791	0.1503	0.0059	0.0004	-0.0471	-0.2626	0.3668	-0.1915
O48	C	0.4249	0.1976	0.1070	0.3410	0.4249	0.1208	0.0061	0.0002	-0.1755	-0.0424	0.1976	-0.0550
O49	B	0.6297	0.4741	0.0733	0.6297	0.1792	0.1106	0.0070	0.0002	-0.1760	0.4741	-0.2521	-0.2539
O50	D	0.3496	0.3245	0.2454	0.2221	0.1740	0.3496	0.0087	0.0003	-0.0638	-0.1591	-0.1439	0.3245
O51	B	0.5687	0.3253	0.1408	0.5687	0.1879	0.0936	0.0087	0.0003	-0.1667	0.3253	-0.1497	-0.1318
O52	B	0.4277	0.3806	0.1809	0.4277	0.2038	0.1799	0.0074	0.0004	-0.1385	0.3806	-0.2313	-0.0903
O53	C	0.4954	0.3564	0.1875	0.1634	0.4954	0.1442	0.0093	0.0003	-0.0902	-0.2294	0.3564	-0.1451
O54	C	0.4136	0.2964	0.1673	0.2017	0.4136	0.2041	0.0130	0.0003	-0.0926	-0.1270	0.2964	-0.1355

Appendix B:

2005 Grade 12 Fall Mathematics Retest
Multiple-Choice Calibration Data

Appendix B: 2005 Grade 12 Fall Mathematics Retest

Multiple-Choice Calibration Data

Item	Anchored Logit Difficulty	SEM	InFit MS	InFit ZSTD	OutFit MS	OutFit ZSTD	Displacement
1	-0.375	0.012	1.06	9.90	1.07	9.90	-0.016
2	-0.937	0.012	1.00	0.20	1.00	-0.40	0.108
3	0.163	0.012	1.03	7.70	1.04	7.30	-0.242
4	0.295	0.012	1.14	9.90	1.18	9.90	-0.359
5	-1.327	0.013	0.89	-9.90	0.83	-9.90	0.023
6	-0.654	0.012	1.00	-0.90	1.00	-0.60	-0.225
7	-0.644	0.012	0.91	-9.90	0.89	-9.90	-0.123
8	0.657	0.013	1.09	9.90	1.16	9.90	-0.009
9	-0.583	0.012	0.99	-1.60	1.00	-0.60	-0.050
10	-0.465	0.012	0.98	-4.10	0.99	-2.60	-0.178
11	1.060	0.014	1.09	9.90	1.20	9.90	-0.050
12	0.048	0.012	1.15	9.90	1.18	9.90	-0.622
13	0.486	0.012	1.07	9.90	1.12	9.90	-0.052
14	-1.312	0.013	0.93	-9.90	0.87	-9.90	-0.036
15	-0.397	0.012	1.03	6.90	1.03	5.60	0.119
16	0.634	0.013	1.09	9.90	1.18	9.90	-0.011
17	1.491	0.015	1.48	9.90	1.81	9.90	-0.532
18	-0.872	0.012	0.89	-9.90	0.87	-9.90	-0.152
19	-1.072	0.013	1.01	1.10	1.00	-0.20	0.090
20	-0.125	0.012	0.95	-9.90	0.94	-9.90	0.121
21	-1.421	0.013	0.92	-9.90	0.93	-7.50	-0.126
22	-1.295	0.013	0.93	-9.90	0.92	-8.90	-0.091
23	0.322	0.012	0.94	-9.90	0.95	-7.70	0.079
24	-1.903	0.015	0.97	-2.80	0.99	-0.50	0.003
25	-0.056	0.012	0.98	-4.30	0.98	-3.20	0.069
26	-0.858	0.012	1.00	0.70	0.99	-1.60	0.210
27	-0.220	0.012	1.01	1.70	1.01	2.00	0.104
28	-1.473	0.014	0.97	-3.70	0.94	-6.50	0.079
29	0.266	0.012	0.95	-9.90	0.96	-7.10	0.177
30	-0.252	0.012	0.88	-9.90	0.87	-9.90	0.167
31	0.658	0.013	1.14	9.90	1.25	9.90	-0.083
32	0.347	0.012	1.01	2.00	1.03	4.40	0.051
33	-0.880	0.012	1.05	9.60	1.04	6.20	0.318
34	-0.375	0.012	0.99	-3.40	0.98	-3.80	0.195
35	-0.261	0.012	1.03	9.00	1.04	7.60	0.402
36	0.091	0.012	0.97	-8.60	0.97	-6.20	0.340
37	-0.944	0.012	0.99	-1.10	0.98	-3.40	0.215
38	1.273	0.014	1.02	2.30	1.17	9.90	0.072
39	0.092	0.012	0.92	-9.90	0.91	-9.90	0.029
40	0.244	0.012	1.03	7.30	1.05	8.10	-0.005
41	-1.466	0.014	0.99	-1.80	0.92	-8.40	0.233
42	-0.737	0.012	1.00	-0.20	1.01	1.00	-0.019
43	1.347	0.015	1.07	7.70	1.31	9.90	0.010
44	-0.367	0.012	0.92	-9.90	0.91	-9.90	0.110
45	0.434	0.012	0.89	-9.90	0.90	-9.90	0.413
46	-0.271	0.012	1.05	9.90	1.05	9.90	0.189
47	-0.718	0.012	1.01	2.20	1.01	2.40	0.128

Appendix B: 2005 Grade 12 Fall Mathematics Retest

Multiple-Choice Calibration Data

Item	Anchored Logit Difficulty	SEM	InFit MS	InFit ZSTD	OutFit MS	OutFit ZSTD	Displacement
48	0.415	0.012	1.20	9.90	1.27	9.90	-0.306
49	-1.102	0.013	0.99	-2.30	0.96	-5.30	0.279
50	0.470	0.012	1.02	3.10	1.02	3.70	-0.013
51	-0.715	0.012	1.06	9.90	1.06	9.90	0.172
52	0.089	0.012	0.98	-5.70	0.99	-2.10	0.002
53	-0.332	0.012	1.00	0.30	1.00	-0.60	0.119
54	0.189	0.012	1.04	9.90	1.06	9.90	-0.033

Appendix C:

2005 Grade 12 Fall Mathematics Retest
Constructed-Response Item Statistics

Appendix C: Grade 12 Fall Mathematics Retest

Constructed-Response Item Statistics

Item	Item Mean	Item Corr.	Score	Count	Percent	INFITMS	OUTFITMS	Threshold Difficulty	S.E
1	1.277	0.506	0	14961	48	1.18	1.25	N/A	N/A
			1	2184	7	1.08	1.47	1.78	0.01
			2	4993	16	1.41	1.7	-0.76	0.01
			3	8922	28	1.42	1.81	-0.15	0.02
			4	265	1	1.06	1.25	3.12	0.05
2	1.221	0.539	0	10487	33	0.86	0.91	N/A	N/A
			1	10677	34	1.02	0.97	-0.41	0.01
			2	3214	10	1.19	1.25	1.49	0.02
			3	6630	21	1.29	1.5	-0.23	0.02
			4	317	1	1.02	1.06	3.15	0.05
3	0.541	0.590	0	19031	61	0.88	0.94	N/A	N/A
			1	8810	28	0.77	0.53	0.29	0.01
			2	2475	8	0.69	0.55	0.99	0.02
			3	839	3	0.84	0.79	1.3	0.03
			4	170	1	0.86	0.83	2.96	0.07

Appendix D:

2005 Grade 12 Fall Reading Retest
Multiple-Choice Item Statistics

Appendix D: 2005 Grade 12 Fall Reading Retest

Multiple-Choice Item Statistics

Item	Key	P-Value	PtBis	% A	% B	% C	% D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
O1	A	0.8698	0.3993	0.8698	0.0225	0.0754	0.0311	0.0012	0.0000	0.3993	-0.2268	-0.2712	-0.1618
O2	D	0.6281	0.3993	0.1151	0.2217	0.0338	0.6281	0.0012	0.0000	-0.1866	-0.2441	-0.1744	0.3993
O3	B	0.3020	0.2287	0.0836	0.3020	0.4471	0.1640	0.0030	0.0002	-0.1278	0.2287	-0.1388	0.0008
O4	C	0.9025	0.4820	0.0291	0.0403	0.9025	0.0267	0.0013	0.0001	-0.2535	-0.2812	0.4820	-0.2696
O5	B	0.4102	0.2868	0.1892	0.4102	0.1241	0.2743	0.0020	0.0002	-0.1477	0.2868	-0.0636	-0.1375
O6	C	0.6896	0.4282	0.0781	0.1600	0.6896	0.0698	0.0023	0.0001	-0.1899	-0.2772	0.4282	-0.1706
O7	D	0.4845	0.2601	0.2301	0.1358	0.1458	0.4845	0.0038	0.0000	-0.0218	-0.1445	-0.1990	0.2601
O8	B	0.4539	0.2883	0.1092	0.4539	0.2633	0.1716	0.0016	0.0002	-0.1423	0.2883	-0.0545	-0.1962
O9	C	0.6568	0.4347	0.1457	0.0859	0.6568	0.1083	0.0030	0.0001	-0.2069	-0.3314	0.4347	-0.1189
O10	C	0.6087	0.3530	0.1359	0.0829	0.6087	0.1695	0.0030	0.0000	-0.2370	-0.2194	0.3530	-0.0737
O11	D	0.6070	0.3744	0.2754	0.0530	0.0622	0.6070	0.0021	0.0003	-0.1878	-0.2299	-0.1839	0.3744
O12	C	0.5138	0.3588	0.0956	0.1845	0.5138	0.2030	0.0030	0.0001	-0.1749	-0.1898	0.3588	-0.1273
O13	B	0.8335	0.4791	0.0544	0.8335	0.0697	0.0401	0.0022	0.0001	-0.2746	0.4791	-0.2768	-0.2138
O14	A	0.5355	0.3901	0.5355	0.2126	0.1479	0.1007	0.0033	0.0001	0.3901	-0.1990	-0.2214	-0.1018
O15	D	0.5463	0.3838	0.1480	0.0984	0.2043	0.5463	0.0030	0.0000	-0.1713	-0.1905	-0.1723	0.3838
O16	B	0.5752	0.3913	0.2141	0.5752	0.0745	0.1325	0.0035	0.0002	-0.1354	0.3913	-0.2417	-0.2084
O17	B	0.5702	0.3936	0.2445	0.5702	0.0609	0.1207	0.0035	0.0001	-0.1349	0.3936	-0.2838	-0.1997
O18	B	0.8445	0.4282	0.0705	0.8445	0.0342	0.0456	0.0051	0.0000	-0.2071	0.4282	-0.2590	-0.2285
O19	A	0.7860	0.4859	0.7860	0.0564	0.0632	0.0885	0.0059	0.0001	0.4859	-0.2573	-0.3098	-0.2001
O20	D	0.6679	0.4159	0.0721	0.1880	0.0648	0.6679	0.0071	0.0001	-0.2514	-0.1452	-0.2643	0.4159
O21	D	0.7616	0.4393	0.1308	0.0613	0.0395	0.7616	0.0067	0.0001	-0.2305	-0.2075	-0.2608	0.4393
O22	A	0.8302	0.5121	0.8302	0.0825	0.0381	0.0423	0.0065	0.0003	0.5121	-0.2762	-0.2957	-0.2515
O23	A	0.6201	0.4959	0.6201	0.1424	0.1335	0.0962	0.0077	0.0001	0.4959	-0.2702	-0.2575	-0.1706
O24	B	0.7068	0.3266	0.0414	0.7068	0.1580	0.0867	0.0069	0.0001	-0.2725	0.3266	-0.1024	-0.1731
O25	A	0.8367	0.2886	0.8367	0.0407	0.0969	0.0248	0.0008	0.0001	0.2886	-0.1489	-0.1984	-0.1109
O26	C	0.7339	0.3947	0.0132	0.0757	0.7339	0.1765	0.0005	0.0001	-0.1944	-0.2597	0.3947	-0.2161
O27	B	0.5711	0.3433	0.1044	0.5711	0.0292	0.2941	0.0010	0.0001	-0.2104	0.3433	-0.2441	-0.1386
O28	C	0.6884	0.2069	0.0645	0.2106	0.6884	0.0347	0.0016	0.0002	-0.1810	-0.0404	0.2069	-0.1820
O29	D	0.6249	0.4192	0.1106	0.0826	0.1810	0.6249	0.0008	0.0000	-0.1785	-0.2328	-0.2128	0.4192
O30	B	0.4501	0.3502	0.1057	0.4501	0.3075	0.1347	0.0018	0.0002	-0.1944	0.3502	-0.2139	-0.0416
O31	B	0.6863	0.4460	0.0302	0.6863	0.2345	0.0474	0.0015	0.0001	-0.2643	0.4460	-0.2506	-0.2535
O32	C	0.7816	0.4784	0.1155	0.0399	0.7816	0.0555	0.0074	0.0002	-0.2920	-0.2917	0.4784	-0.1645
O33	B	0.7566	0.4505	0.1061	0.7566	0.0723	0.0577	0.0068	0.0005	-0.2226	0.4505	-0.2417	-0.2247
O34	B	0.5330	0.3988	0.1734	0.5330	0.1417	0.1441	0.0075	0.0004	-0.2950	0.3988	-0.1639	-0.0566
O35	D	0.6224	0.5259	0.0508	0.0610	0.2579	0.6224	0.0076	0.0003	-0.2314	-0.2654	-0.2971	0.5259

Appendix D: 2005 Grade 12 Fall Reading Retest

Multiple-Choice Item Statistics

Item	Key	P-Value	PtBis	% A	% B	% C	% D	Blank	Invalid	R(A)	R(B)	R(C)	R(D)
O36	B	0.8641	0.4879	0.0450	0.8641	0.0414	0.0423	0.0068	0.0003	-0.2726	0.4879	-0.2470	-0.2555
O37	D	0.7316	0.4664	0.0730	0.1268	0.0607	0.7316	0.0074	0.0004	-0.2335	-0.2078	-0.2776	0.4664
O38	D	0.8950	0.5168	0.0378	0.0289	0.0304	0.8950	0.0074	0.0005	-0.2917	-0.2713	-0.2689	0.5168
O39	B	0.5911	0.3560	0.1134	0.5911	0.2209	0.0661	0.0082	0.0003	-0.2176	0.3560	-0.1193	-0.1857
O40	D	0.4393	0.2991	0.3280	0.0671	0.1573	0.4393	0.0079	0.0004	-0.0637	-0.2295	-0.1395	0.2991

Appendix E:

2005 Grade 12 Fall Reading Retest
Multiple-Choice Calibration Data

Appendix E: 2005 Grade 12 Fall Reading Retest

Multiple-Choice Calibration Data

Item	Anchored Logit Difficulty	SEM	InFit MS	InFit ZSTD	OutFit MS	OutFit ZSTD	Displacement
1	-2.141	0.022	0.99	-0.40	0.87	-5.10	0.079
2	-0.305	0.015	1.00	-0.80	1.00	-0.50	-0.188
3	1.447	0.017	1.30	9.90	1.65	9.90	-0.356
4	-2.497	0.025	0.90	-5.70	0.59	-9.90	0.077
5	0.441	0.015	1.09	9.90	1.18	9.90	0.095
6	-0.932	0.017	1.02	2.60	1.00	0.10	0.120
7	0.232	0.015	1.14	9.90	1.20	9.90	-0.043
8	0.202	0.015	1.10	9.90	1.16	9.90	0.128
9	-1.033	0.017	1.15	9.90	1.15	9.90	0.394
10	-0.071	0.015	1.03	6.30	1.07	8.70	-0.324
11	-0.384	0.015	1.03	5.50	1.04	4.30	-0.006
12	0.285	0.015	1.04	8.00	1.11	9.90	-0.228
13	-1.847	0.020	0.94	-4.40	0.82	-8.80	0.106
14	-0.034	0.015	1.02	3.90	1.03	4.30	-0.014
15	0.091	0.015	1.03	5.80	1.05	6.00	-0.188
16	-0.236	0.015	1.02	3.20	1.03	3.00	-0.001
17	-0.339	0.015	1.04	6.90	1.04	4.90	0.125
18	-1.768	0.020	0.88	-9.90	0.85	-7.30	-0.068
19	-1.615	0.019	1.02	1.50	0.94	-3.00	0.226
20	-1.001	0.017	1.10	9.90	1.13	9.50	0.304
21	-1.417	0.018	1.05	4.40	1.04	2.20	0.187
22	-1.894	0.021	0.96	-3.20	0.80	-9.20	0.181
23	-0.599	0.016	0.95	-7.80	0.92	-8.00	0.145
24	-0.779	0.016	1.03	3.80	1.07	5.80	-0.129
25	-1.912	0.021	1.14	9.70	1.30	9.90	0.145
26	-1.095	0.017	1.03	3.20	1.02	1.30	0.032
27	-0.485	0.016	1.14	9.90	1.17	9.90	0.268
28	-0.401	0.015	1.13	9.90	1.18	9.90	-0.405
29	-0.544	0.016	1.02	2.50	1.00	-0.40	0.065
30	0.096	0.015	1.05	9.80	1.09	9.90	0.251
31	-1.007	0.017	1.04	5.30	1.00	-0.20	0.213
32	-1.738	0.020	1.14	9.90	1.07	3.40	0.379
33	-1.356	0.018	1.03	2.50	0.97	-2.10	0.157
34	-0.245	0.015	1.04	6.30	1.05	5.40	0.207
35	-1.075	0.017	1.17	9.90	1.14	9.70	0.610
36	-2.333	0.024	1.11	6.20	0.85	-5.50	0.328
37	-1.325	0.018	1.06	5.90	1.03	1.60	0.277
38	-2.707	0.027	1.12	5.70	0.71	-9.10	0.380
39	-0.382	0.015	1.07	9.90	1.08	8.90	0.069
40	0.175	0.015	1.11	9.90	1.16	9.90	0.223

Appendix F:

2005 Grade 12 Fall Reading Retest
Constructed-Response Item Statistics

Appendix F: 2005 Grade 12 Fall Reading Retest

Constructed-Response Item Statistics

Item	Item Mean	Item Coor.	Score	Count	Percent	INFITMS	OUTFITMS	Threshold Difficulty	S.E
1	1.854	0.641	0	1394	7	0.63	0.62	N/A	N/A
			1	4616	23	0.74	0.72	-0.72	0.02
			2	9795	48	0.97	0.93	-0.9	0.02
			3	4440	22	0.95	0.97	1.18	0.02
2	1.642	0.614	0	2769	14	0.73	0.75	N/A	N/A
			1	5181	26	0.85	0.99	0.06	0.02
			2	8824	44	1.21	1.23	-0.43	0.02
			3	3471	17	1.1	1.07	1.77	0.02
3	1.388	0.620	0	3328	16	0.72	0.74	N/A	N/A
			1	7571	37	0.86	0.9	-0.32	0.02
			2	7509	37	1.01	0.97	0.15	0.02
			3	1837	9	0.97	0.97	2.22	0.03
4	1.400	0.603	0	2582	13	0.79	0.77	N/A	N/A
			1	7528	37	0.96	0.95	-0.76	0.02
			2	9600	47	0.81	0.8	-0.61	0.02
			3	535	3	0.91	0.96	3.25	0.04

Appendix G:

2005 Grade 12 Fall Writing Retest
Item Statistics

Appendix G: 2005 Grade 12 Fall Writing Retest

Item Statistics

Item	Score	Count	Percentage	Unanchored Retest Logit Difficulty	SEM	INFITMS	OUTFITMS	Spring 2005 Logit Difficulty	Displacement
P1D1	0	134	1	N/A	N/A	1.07	1.2	N/A	N/A
	2	149	1	-3.78	0.1	0.72	0.68	-2.6	-1.18
	3	238	2	-3.66	0.07	0.62	0.56	-2.41	-1.25
	4	2514	16	-4.76	0.06	1.12	1.4	-2.99	-1.77
	5	2885	19	-1.32	0.03	1.04	1.09	-0.64	-0.68
	6	8473	55	-0.76	0.02	1.27	1.19	-0.39	-0.37
	7	706	5	4.92	0.04	1.08	0.92	3.21	1.71
	8	214	1	5.73	0.08	1.25	1.27	3.73	2.00
P1D2	0	134	1	N/A	N/A	0.95	0.99	N/A	N/A
	2	351	2	-4.51	0.1	0.71	0.61	-3.19	-1.32
	3	323	2	-2.88	0.06	0.54	0.56	-1.79	-1.09
	4	3951	26	-4.49	0.05	1.05	1.16	-2.69	-1.80
	5	2479	16	-0.23	0.03	1.08	1.11	-0.11	-0.12
	6	7236	47	-0.41	0.02	1.29	1.23	-0.15	-0.26
	7	613	4	5.07	0.04	1.28	1.04	3.23	1.84
	8	226	1	5.56	0.08	1.16	1.27	3.59	1.97
P1D3	0	134	1	N/A	N/A	0.94	0.96	N/A	N/A
	2	376	2	-4.56	0.1	0.68	0.6	-3.29	-1.27
	3	415	3	-3.04	0.06	0.67	0.66	-1.71	-1.33
	4	3562	23	-4.14	0.04	0.91	0.95	-2.46	-1.68
	5	2865	19	-0.5	0.03	1.01	0.99	-0.45	-0.05
	6	7419	48	-0.26	0.02	1.17	1.11	-0.31	0.05
	7	453	3	5.62	0.05	1.06	0.85	3.53	2.09
	8	89	1	6.55	0.12	1.15	0.95	4.07	2.48
P1D4	0	134	1	N/A	N/A	0.96	1	N/A	N/A
	2	320	2	-4.42	0.1	0.62	0.48	-3.23	-1.19
	3	372	2	-3.13	0.06	0.69	0.69	-1.84	-1.29
	4	3604	24	-4.3	0.05	0.89	0.84	-2.47	-1.83
	5	3141	20	-0.58	0.03	0.94	0.88	-0.46	-0.12
	6	6874	45	-0.1	0.02	1.1	1.05	-0.24	0.14
	7	667	4	4.96	0.04	1.26	0.98	3.13	1.83
	8	201	1	5.79	0.08	1.19	1.21	3.65	2.14

Appendix G: 2005 Grade 12 Fall Writing Retest

Item Statistics

Item	Score	Count	Percentage	Unanchored Retest Logit Difficulty	SEM	INFITMS	OUTFITMS	Spring 2005 Logit Difficulty	Displacement
P1D5	0	134	1	N/A	N/A	0.97	1.01	N/A	N/A
	2	301	2	-4.37	0.1	0.82	0.76	-3.19	-1.18
	3	374	2	-3.2	0.06	0.86	0.84	-1.91	-1.29
	4	3868	25	-4.33	0.05	1.19	1.3	-2.44	-1.89
	5	3310	22	-0.5	0.03	1.24	1.19	-0.36	-0.14
	6	6334	41	0.09	0.02	1.36	1.31	-0.11	0.20
	7	787	5	4.7	0.04	1.44	1.17	3.08	1.62
	8	205	1	5.88	0.08	1.29	1.38	3.95	1.93
P2D1	0	316	2	N/A	N/A	1.41	1.47	N/A	N/A
	2	237	2	-3.12	0.07	1.5	1.79	-1.9	-1.22
	3	402	3	-3.35	0.06	1.39	1.51	-2.21	-1.14
	4	4326	28	-4.2	0.04	0.97	0.87	-3.07	-1.13
	5	2449	16	0.02	0.03	0.79	0.74	-0.73	0.75
	6	6605	43	-0.23	0.02	0.85	0.83	-0.21	-0.02
	7	650	4	4.91	0.04	0.79	0.72	3.07	1.84
	8	280	2	5.3	0.07	1.01	0.98	3.85	1.45
P2D2	0	316	2	N/A	N/A	1.08	0.97	N/A	N/A
	2	764	5	-4.07	0.07	0.78	0.75	-2.31	-1.76
	3	663	4	-2.31	0.04	0.64	0.64	-1.8	-0.51
	4	5170	34	-3.38	0.04	0.85	0.84	-3.04	-0.34
	5	2499	16	0.63	0.02	0.94	0.92	0.1	0.53
	6	5252	34	0.45	0.02	0.98	0.94	-0.21	0.66
	7	412	3	5.54	0.05	0.82	0.71	3.29	2.25
	8	189	1	5.52	0.09	1	0.93	3.69	1.83
P2D3	0	316	2	N/A	N/A	1.02	0.95	N/A	N/A
	2	874	6	-4.17	0.07	0.72	0.69	-2.41	-1.76
	3	735	5	-2.23	0.04	0.67	0.66	-1.88	-0.35
	4	4361	28	-3.13	0.04	0.78	0.76	-2.65	-0.48
	5	2648	17	0.31	0.02	0.83	0.8	-0.27	0.58
	6	5860	38	0.29	0.02	0.92	0.89	-0.13	0.42
	7	358	2	5.84	0.06	0.72	0.69	3.66	2.18
	8	113	1	6.08	0.11	0.83	0.61	4.45	1.63

Appendix G: 2005 Grade 12 Fall Writing Retest

Item Statistics

Item	Score	Count	Percentage	Unanchored Retest Logit Difficulty	SEM	INFITMS	OUTFITMS	Spring 2005 Logit Difficulty	Displacement
P2D4	0	316	2	N/A	N/A	1.07	0.98	N/A	N/A
	2	760	5	-4.07	0.07	0.64	0.59	-2.33	-1.74
	3	751	5	-2.44	0.04	0.65	0.65	-1.93	-0.51
	4	4344	28	-3.14	0.04	0.71	0.67	-2.69	-0.45
	5	3241	21	0.11	0.02	0.75	0.67	-0.36	0.47
	6	5203	34	0.65	0.02	0.83	0.81	-0.1	0.75
	7	451	3	5.4	0.05	0.83	0.73	3.44	1.96
	8	199	1	5.53	0.09	1.03	0.98	4.1	1.43
P2D5	0	316	2	N/A	N/A	1.12	1.01	N/A	N/A
	2	679	4	-3.99	0.07	0.78	0.73	-2.33	-1.66
	3	696	5	-2.52	0.05	0.8	0.8	-1.97	-0.55
	4	4873	32	-3.33	0.04	0.99	1.03	-2.74	-0.59
	5	3310	22	0.28	0.02	1.03	0.99	-0.13	0.41
	6	4772	31	0.87	0.02	1.11	1.08	0.18	0.69
	7	467	3	5.39	0.05	0.97	0.91	3.13	2.26
	8	152	1	5.92	0.1	0.98	0.93	4.07	1.85

Appendix H:

2005 Grade 12 Fall Writing Retest
Domain Level Statistics

Appendix H: 2005 Grade 12 Fall Writing Retest

Domain Level Statistics

Domain	Informational		Persuasive	
	Mean	Corr.	Mean	Corr.
Focus	5.40	0.743	5.03	0.801
Content	5.17	0.766	4.72	0.826
Organization	5.14	0.787	4.76	0.842
Style	5.18	0.794	4.78	0.852
Conventions	5.15	0.740	4.73	0.804

* This is the correlation between the raw score for the prompt/domain combination and the overall Writing raw score (less the score associated with the specific prompt/domain).

Appendix I:

2005 Grade 12 Fall Writing Retest
Inter-Reader Correlations

Appendix I: 2005 Grade 12 Fall Writing Retest

Inter-Reader Correlations

Prompt 1: Narrative												
	R1D1	**R1D2**	**R1D3**	**R1D4**	**R1D5**	**R1 Total**	**R2D1**	**R2D2**	**R2D3**	**R2D4**	**R2D5**	**R2 Total**
R1D1	1	0.709	0.730	0.698	0.651	0.856	0.698	0.649	0.647	0.621	0.574	0.722
R1R2		1.000	0.800	0.741	0.641	0.884	0.651	0.764	0.706	0.660	0.577	0.762
R1D3			1.000	0.757	0.675	0.899	0.662	0.709	0.733	0.661	0.596	0.761
R1D4				1.000	0.807	0.910	0.639	0.671	0.669	0.711	0.659	0.760
R1D5					1.000	0.858	0.601	0.591	0.608	0.667	0.697	0.718
R1 Total						1.000	0.737	0.768	0.763	0.754	0.705	0.845
R2D1							1.000	0.727	0.736	0.696	0.646	0.859
R2D2								1.000	0.804	0.736	0.629	0.884
R2D3									1.000	0.767	0.674	0.902
R2D4										1.000	0.806	0.910
R2D5											1.000	0.854
R2 Total												1.000

Prompt 2: Persuasive												
	R1D1	**R1D2**	**R1D3**	**R1D4**	**R1D5**	**R1 Total**	**R2D1**	**R2D2**	**R2D3**	**R2D4**	**R2D5**	**R2 Total**
R1D1	1.000	0.823	0.832	0.791	0.731	0.910	0.807	0.761	0.765	0.725	0.680	0.813
R1R2		1.000	0.871	0.805	0.728	0.922	0.758	0.814	0.785	0.739	0.678	0.821
R1D3			1.000	0.826	0.747	0.933	0.758	0.785	0.809	0.742	0.690	0.823
R1D4				1.000	0.865	0.935	0.729	0.744	0.748	0.774	0.739	0.813
R1D5					1.000	0.888	0.685	0.683	0.697	0.738	0.763	0.775
R1 Total						1.000	0.814	0.826	0.829	0.811	0.774	0.882
R2D1							1.000	0.829	0.836	0.797	0.738	0.912
R2D2								1.000	0.873	0.811	0.730	0.923
R2D3									1.000	0.833	0.754	0.935
R2D4										1.000	0.869	0.938
R2D5											1.000	0.890
R2 Total												1.000

Appendix J:

2005 Grade 12 Fall Mathematics Retest
Raw-to-Scaled Score Conversion Table

Appendix J: 2005 Grade 12 Fall Mathematics Retest

Raw-to-Scaled Score Conversion Table

Grade 12 Mathematics Retest Raw-to-Scaled Score Conversion Table							
Raw Score	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score	Raw Score SEM	Scale Score	Scale Score SEM
0	0.55	700	378	47	3.51	1408	59
1	0.99	700	209	48	3.44	1425	60
2	1.38	700	150	49	3.37	1443	61
3	1.66	700	124	50	3.29	1461	63
4	1.89	700	109	51	3.21	1481	64
5	2.09	700	99	52	3.12	1501	66
6	2.26	700	91	53	3.02	1523	68
7	2.41	707	86	54	2.92	1547	71
8	2.54	741	81	55	2.81	1572	73
9	2.66	771	78	56	2.69	1599	77
10	2.77	800	75	57	2.57	1629	80
11	2.87	826	72	58	2.44	1662	85
12	2.96	850	70	59	2.29	1699	90
13	3.04	873	68	60	2.14	1741	96
14	3.11	895	66	61	1.97	1789	105
15	3.18	915	65	62	1.79	1848	115
16	3.25	935	64	63	1.58	1921	131
17	3.31	955	62	64	1.32	2020	157
18	3.37	973	61	65	0.96	2179	215
19	3.42	991	60	66	0.54	2440	382
20	3.47	1008	60				
21	3.51	1025	59				
22	3.56	1042	58				
23	3.60	1058	57				
24	3.64	1074	57				
25	3.67	1089	56				
26	3.71	1104	56				
27	3.74	1119	55				
28	3.77	1134	55				
29	3.79	1148	54				
30	3.82	1163	54				
31	3.84	1177	54				
32	3.86	1191	54				
33	3.87	1205	53				
34	3.88	1218	53				
35	3.88	1232	53				
36	3.88	1246	53				
37	3.87	1259	53				
38	3.86	1273	53				
39	3.85	1287	54				
40	3.82	1301	54				
41	3.80	1315	54				
42	3.76	1330	55				
43	3.72	1345	55				
44	3.68	1360	56				
45	3.63	1375	57				
46	3.57	1391	58				

Appendix K:

2005 Grade 12 Fall Reading Retest
Raw-to-Scaled Score Conversion Table

Appendix K: 2005 Grade 12 Fall Reading Retest

Raw-to-Scaled Score Conversion Table

Grade 12 Reading Retest Raw-to-Scaled Score Conversion Table							
Raw Score	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score	Raw Score SEM	Scale Score	Scale Score SEM
0	0.54	700	451	47	1.91	1636	128
1	0.98	700	251	48	1.73	1710	142
2	1.36	700	181	49	1.53	1802	161
3	1.63	700	151	50	1.28	1926	192
4	1.84	700	133	51	0.94	2126	261
5	2.02	700	121	52	0.54	2446	458
6	2.18	700	113				
7	2.31	700	106				
8	2.43	700	101				
9	2.54	700	97				
10	2.64	700	93				
11	2.73	700	90				
12	2.81	700	87				
13	2.88	700	85				
14	2.95	700	83				
15	3.01	716	81				
16	3.07	742	80				
17	3.12	768	79				
18	3.17	793	78				
19	3.21	817	77				
20	3.24	841	76				
21	3.27	864	75				
22	3.30	887	74				
23	3.32	909	74				
24	3.33	931	74				
25	3.34	953	73				
26	3.34	975	73				
27	3.34	997	73				
28	3.34	1019	74				
29	3.32	1041	74				
30	3.30	1064	74				
31	3.28	1087	75				
32	3.25	1110	76				
33	3.21	1133	76				
34	3.17	1157	77				
35	3.12	1182	79				
36	3.06	1208	80				
37	3.00	1234	82				
38	2.93	1262	84				
39	2.85	1292	86				
40	2.77	1323	89				
41	2.67	1356	92				
42	2.57	1392	95				
43	2.46	1430	100				
44	2.34	1473	105				
45	2.21	1520	111				
46	2.07	1574	119				

Appendix L:

2005 Grade 12 Fall Writing Retest
Raw-to-Scaled Score Conversion Table

Appendix L: 2005 Grade 12 Fall Writing Retest

Raw-to-Scaled Score Conversion Table

Grade 12 Writing Retest Raw-to-Scaled Score ConversionTable							
Raw Score	Raw Score SEM	Scale Score	Scale Score SEM	Raw Score	Raw Score SEM	Scale Score	Scale Score SEM
0	0.55	700	63	56	2.33	1211	48
1	0.55	700	63	57	2.22	1232	50
2	0.99	700	63	58	2.13	1255	52
3	0.99	700	63	59	2.00	1282	55
4	1.41	700	63	60	1.96	1309	57
5	1.41	700	63	61	1.96	1338	57
6	1.75	700	63	62	2.04	1366	54
7	1.75	700	63	63	2.08	1393	53
8	2.08	723	53	64	2.17	1416	51
9	2.08	723	53	65	2.27	1438	49
10	2.33	746	48	66	2.38	1459	47
11	2.33	746	48	67	2.44	1479	46
12	2.56	764	43	68	2.44	1497	46
13	2.56	764	43	69	2.44	1516	46
14	2.78	780	40	70	2.44	1534	46
15	2.78	780	40	71	2.44	1552	46
16	2.94	793	38	72	2.38	1571	47
17	2.94	793	38	73	2.33	1591	48
18	3.13	805	36	74	2.22	1613	50
19	3.13	805	36	75	2.08	1638	53
20	3.33	815	33	76	1.89	1666	59
21	3.45	825	32	77	1.67	1701	67
22	3.57	834	31	78	1.39	1748	80
23	3.57	843	31	79	1.00	1827	111
24	3.70	852	30	80	0.55	1960	203
25	3.70	860	30				
26	3.85	868	29				
27	3.85	875	29				
28	3.85	883	29				
29	3.85	890	29				
30	3.85	898	29				
31	3.85	905	29				
32	3.70	913	30				
33	3.70	921	30				
34	3.70	930	30				
35	3.57	938	31				
36	3.45	946	32				
37	3.45	956	32				
38	3.33	965	33				
39	3.23	976	34				
40	3.23	986	34				
41	3.13	997	36				
42	3.03	1009	37				
43	3.03	1021	37				
44	3.03	1033	37				
45	2.94	1046	38				
46	2.94	1059	38				
47	2.94	1072	38				
48	2.86	1085	39				
49	2.86	1098	39				
50	2.86	1112	39				
51	2.78	1126	40				
52	2.70	1141	41				
53	2.63	1156	42				
54	2.56	1173	43				
55	2.44	1191	46				