

**New York State Regents Examination in
Algebra 2/Trigonometry**

**2014 Field Test Analysis,
Equating Procedure, and Scaling of
Operational Test Forms**

Technical Report



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by Pearson

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Section I: Introduction

PURPOSE

The purpose of this report is to document the psychometric properties of the New York State Regents Examination in Algebra 2/Trigonometry. In addition, this report documents the procedures used to analyze the results of the field test and to equate and scale the operational test forms. For 2014, there are separate Common Core and Non-Common Core portions. The present report addresses only the Non-Common Core portion; the Common Core portion is addressed in a separate Technical Report.

Section II: Field Test Analysis

In May 2014, prospective items for the New York State Regents Examination in Algebra 2/Trigonometry were field tested. The results of this testing were used to evaluate item quality. Only items with acceptable statistical characteristics can be selected for use on operational tests.

Representative student samples for participation in this testing were selected to mirror the demographics of the student population that is expected to take the operational test. The Need/Resource Capacity Categories in Table 1 were used as variables in the sampling plan.

Table 1. Need/Resource Capacity Category Definitions

Need/Resource Capacity (N/RC) Category	Definition
High N/RC Districts: New York City	New York City
Large Cities	Buffalo, Rochester, Syracuse, Yonkers
Urban/Suburban	All districts at or above the 70 th percentile on the index with at least 100 students per square mile or an enrollment greater than 2500
Rural	All districts at or above the 70 th percentile on the index with fewer than 50 students per square mile or an enrollment of fewer than 2500
Average N/RC Districts	All districts between the 20 th and 70 th percentiles on the index
Low N/RC Districts	All districts below the 20 th percentile on the index
Charter Schools	Each charter school is a district

FILE PROCESSING AND DATA CLEANUP

The Regents examinations utilize both multiple-choice (MC) and constructed-response (CR) item types in order to more fully assess student ability. Multiple field test (FT) forms were given during this administration to allow a large number of items to be field tested without placing an undue burden on the students participating in the field test; each student only took a small subset of the items being field tested. The New York State Education Department (NYSED) handled all scanning of the MC responses. Scoring of the CR responses was performed by Measurement Incorporated (MI) under contract with the NYSED. The NYSED and MI produced separate data files which were provided to Pearson. A test map file that documented the items on each of the FT forms was also provided to Pearson by the NYSED. Finally, student data file layouts containing the position of every field within the student data files from both the NYSED and MI were also provided to Pearson by the NYSED. Upon receipt of these files, Pearson staff checked the data, test map, and layouts for consistency. Any anomalies were referred back to the NYSED for resolution. After these had been resolved and corrected as necessary, final processing of the data file then took place. Merging of the NYSED and MI provided data was accomplished through uniquely assigned booklet numbers. This processing included the identification and deletion of invalid student test records through the application of a set of predefined exclusion rules.¹ The original student data file received from the NYSED contained 42,323 records (which contained student records for both the Common Core and Non-Common Core portions of the exam); the final field test data file for the Non-Common Core portion contained 24,492 records.

Within the final data file used in the field test analyses, MC responses were scored according to the item keys contained in the test map; correct responses received a score of 1, while incorrect responses received a score of 0. CR item scores were taken directly from the student data file, with the exception that out-of-range scores were assigned scores of 0. For Item Response Theory (IRT) calibrations, blanks (i.e., missing data, not omits) were also scored as 0.

In addition to the scored data, the final data file also contained the unscored student responses and scores. Unscored data was used to calculate the percentage of students who selected the various answer choices for the MC items or the percentage of students who received each achievable score point for the CR items. The frequency of students leaving items blank was also calculated. The scored data were used for all other analyses.

CLASSICAL ANALYSIS

Classical Test Theory assumes that any observed test score x is composed of both true score t and error score e . This assumption is expressed as follows:

¹ These exclusion rules flagged records without both an MC and a CR component, records with invalid or out-of-range form numbers, records without any responses, and duplicate records. These records were dropped prior to analysis.

$$x = t + e$$

All test scores are composed of both a true and an error component. For example, the choice of test items or administration conditions might influence student responses, making a student's observed score higher or lower than the student's true ability would warrant. This error component is random and uncorrelated with (i.e., unrelated to) the student's true score. Across an infinitely large number of administrations, the mean of the error scores would be zero. Thus, the best estimate of a student's true score for any test administration (or their expected score given their [unobservable] true level of ability or true score) is that student's observed score. This expectation is expressed as follows:

$$E(x) = t$$

Item difficulties, point-biserial correlations, reliability estimates, and various statistics related to rater agreement have been calculated and are summarized in the following section.

Item Difficulty

Item difficulty is typically defined as the average of scores for a given item. For MC items, this value (commonly referred to as a p-value) ranges from 0 to 1. For CR items, this value ranges from 0 to the maximum possible score. In order to place all item means on a common metric (ranging from 0 to 1), CR item means were divided by the maximum points possible for the item.

Item Discrimination

Item discrimination is defined as the correlation between a score on a given test question and the overall raw test score. These correlations are Pearson correlation coefficients. For MC items, it is also known as the point-biserial correlation.

Table 2 presents a summary of the classical item analysis for each of the field test forms. The first three columns from the left identify the form number, the number of students who took each form, and the number of items on each field test form, respectively. The remaining columns are divided into two sections (i.e., item difficulty and discrimination). Recall that for CR items, item means were divided by the maximum number of points possible in order to place them in the same metric as the MC items. There were no items with difficulties that were greater than 0.90 and 14 items had correlations that were less than 0.25. In addition to the summary information provided in Table 2, further classical item statistics are provided in Appendix A.

Table 2. Classical Item Analysis Summary

Form	N-Count	No. of Items	Item Difficulty			Item Discrimination		
			<0.50	0.50 to 0.90	>0.90	<0.25	0.25 to 0.50	>0.50
922	835	11	8	3	0	0	9	2
923	839	11	10	1	0	0	7	4
924	847	11	8	3	0	1	6	4

Form	N-Count	No. of Items	Item Difficulty			Item Discrimination		
			<0.50	0.50 to 0.90	>0.90	<0.25	0.25 to 0.50	>0.50
925	844	11	9	2	0	1	6	4
926	844	11	9	2	0	0	8	3
927	840	11	9	2	0	0	6	5
928	850	11	9	2	0	0	9	2
929	868	11	6	5	0	1	7	3
930	862	11	8	3	0	2	6	3
931	876	11	8	3	0	0	10	1
932	867	11	10	1	0	0	8	3
933	871	11	7	4	0	0	7	4
934	857	11	7	4	0	1	7	3
935	840	11	7	3	0	1	7	2
936	852	11	9	2	0	1	7	3
937	841	11	8	3	0	0	9	2
938	832	11	6	5	0	0	6	5
939	841	11	8	3	0	1	6	4
940	847	11	11	0	0	2	7	2
941	851	11	8	3	0	0	8	3
942	839	11	9	2	0	0	8	3
943	839	11	7	4	0	0	7	4
944	827	11	9	2	0	0	7	4
945	834	11	8	3	0	1	6	4
946	822	11	10	1	0	0	7	4
947	838	11	6	5	0	0	7	4
948	828	11	9	2	0	1	6	4
949	833	11	5	6	0	1	6	4
950	828	11	8	3	0	0	7	4

For some forms, the item counts in the “Item Difficulty” and “Item Discrimination” columns may not sum to the value in the “No. of Items” column due to DNS (Do Not Score) items.

Test Reliability

Reliability is the consistency of the results obtained from a measurement with respect to time or between items or subjects that constitute a test. As such, test reliability can be estimated in a variety of ways. Internal consistency indices are a measure of how consistently examinees respond to items within a test. Two factors influence estimates of internal consistency: (1) test length and (2) homogeneity of the items. In general, the more items on the examination, the higher the reliability and the more similar the items, the higher the reliability.

Table 3 contains the internal consistency statistics for each of the field test forms under the heading “Test Reliability.” These statistics ranged from 0.51 to 0.68. It should be noted that these field test forms are very short (11 items), so low test reliability values are not unexpected; operational tests generally are composed of more items and would be expected to have higher reliabilities than do these field test forms.

Scoring Reliability

One concern with CR items is the reliability of the scoring process (i.e., consistency of the score assignment). CR items must be read by scorers who assign scores based on a comparison between the rubric and student responses. Consistency between scorers is a critical part of the reliability of the assessment. To track scorer consistency, approximately 10% of the test booklets are scored a second time (these are termed “second read scores”) and compared to the original set of scores (also known as “first read scores”).

As an overall measure of scoring reliability, the Pearson correlation coefficient between the first and second scores for all CR items with second read scores was computed for each form. This statistic is often used as an overall indicator of scoring reliability, and it generally ranges from 0 to 1. Table 3 contains these values in the column headed “Scoring Reliability.” These values ranged from 0.86 to 0.96, indicating a fair to high degree of reliability across the forms.

Table 3. Test and Scoring Reliability

Form Number	Test Reliability	Scoring Reliability
922	0.63	0.92
923	0.66	0.93
924	0.61	0.90
925	0.63	0.94
926	0.64	0.91
927	0.68	0.91
928	0.56	0.96
929	0.58	0.93
930	0.57	0.91
931	0.60	0.96
932	0.59	0.94
933	0.68	0.88
934	0.61	0.88
935	0.54	0.92
936	0.65	0.86
937	0.51	0.94
938	0.64	0.92
939	0.62	0.93
940	0.54	0.92
941	0.67	0.92
942	0.64	0.90
943	0.68	0.89
944	0.68	0.86
945	0.65	0.90
946	0.60	0.90
947	0.66	0.94
948	0.68	0.94
949	0.64	0.90

Form Number	Test Reliability	Scoring Reliability
950	0.65	0.94

Inter-rater Agreement

For each CR item, the difference between the first and second reads was tracked and the number of times each possible difference between the scores occurred was tabulated. These values were then used to calculate the percentage of times each possible difference occurred. When examining inter-rater agreement statistics, it should be kept in mind that the maximum number of points per item varies, as shown in the “Score Points” column. Blank cells in the table indicate out-of-range differences (e.g., it is impossible for two raters to differ by more than one point in their scores on an item with a maximum possible score of one; cells in the table other than -1, 0, and 1 would therefore be blanked out).

Appendix B contains the proportion of occurrence of these differences for each CR item. CR item maximum point values ranged between two and six. Rates of exact agreement (i.e., differences of zero points) ranged between 66% and 99%. Appendix C contains additional summary information regarding the first and second reads, including the percentage of the first and second scores that were exact or adjacent matches. Percentages of exact or adjacent agreement ranged between 87% and 100%.

Constructed-Response Item Means and Standard Deviations

Appendix C also contains the mean and standard deviation of the first and second scores for each CR item. The largest difference between the item means for the first and second read scores was 0.1, while the largest difference between the standard deviations was 0.09.

Intraclass Correlation

In addition, Appendix C contains the intraclass correlations for the items. These correlations are calculated using a formulation given by Shrout and Fleiss (1979). Specifically, they described six different models based on various configurations of judges and targets (in this case, papers that are being scored). For this assessment, the purpose of the statistic is to describe the reliability of single ratings, and each paper is scored by two judges who are randomly assigned from the larger pool of judges, and who score multiple papers. This description fits their “Case 1.” Further, they distinguish between situations where the score assigned to the paper is that of a single rater versus that where the score is the mean of k raters. Since the students’ operational scores are those from single (i.e., the first) raters, the proper intraclass correlation in this instance is termed by Shrout and Fleiss as “ICC(1,1).” It will be referred to herein simply as the “intraclass correlation” (ICC).

While the ICC is a bona fide correlation coefficient, it differs from a regular correlation coefficient in that its value remains the same regardless of how the raters are ordered. A regular Pearson correlation coefficient would change values if, for example, half of the second raters were switched to the first position, while the ICC would maintain a consistent value. Because the papers were randomly assigned to the

judges, ordering is arbitrary, and thus the ICC is a more appropriate measure of reliability than the Pearson correlation coefficient in this situation. The ICC ranges from zero (the scores given by the two judges are unrelated) to one (the scores from the two judges match perfectly); negative values are possible, but rare, and have essentially the same meaning as values of zero. It should also be noted that the ICC can be affected by low degrees of variance in the scores being related, similar to the way that regular Pearson correlation coefficients are affected. ICCs for items where almost every examinee achieved the same score point (e.g., an extremely easy dichotomous item where almost every examinee was able to answer it correctly) may have a low or negative ICC even though almost all ratings by the judges matched exactly.

McGraw and Wong (1996, Table 4, p. 35) state that the ICC can be interpreted as “the degree of absolute agreement among measurements made on randomly selected objects. It estimates the correlation of any two measurements.” Since it is a correlation coefficient, its square indicates the percent of variance in the scores that is accounted for by the relationship between the two sets of scores (i.e., the two measurements). In this case, these scores are those of the pair of judges. ICC values greater than 0.60 indicate that at least 36% (0.60^2) of the variation in the scores given by the raters is accounted for by variations in the responses to the items that are being scored (e.g., variations in the ability being measured) rather than by variations caused by a combination of differences in the severity of the judges, interactions between judge severity and the items, and random error (e.g., variations exterior to the ability being measured). It is generally preferred that items have ICCs at this level or higher. Only one item had an ICC below 0.68. Consistent with other information provided in the table, these values indicate a high to very high level of scoring reliability for almost all of the items on the field test.

Weighted Kappa

Weighted Kappa (Cohen, 1968) was also calculated for each item based on the first and second reads and is included in Appendix C as well. This statistic is an estimate of the agreement of the score classifications over and above that which would be expected to occur by chance. Similar to the ICC, its value can range between zero (the scores given by the judges agree as often as would be expected by chance) and one (scores given by the judges agree perfectly). In addition, negative values are possible, but rare, and have the same interpretation as zero values. One set of guidelines for the evaluation of this statistic is (Fleiss, 1981):

- $k > 0.75$ denotes excellent reproducibility
- $0.4 < k \leq 0.75$ denotes good reproducibility
- $0 < k \leq 0.4$ denotes marginal reproducibility

The results show excellent reproducibility between the first and second reads for all but 24 items, and good reproducibility for all of those 24. There were no items displaying marginal reproducibility. The scoring reliability analyses offer strong evidence that the scoring of the CR items was performed in a reliable to a highly reliable manner.

ITEM RESPONSE THEORY (IRT) AND THE CALIBRATION AND EQUATING OF THE FIELD TEST ITEMS

While classical test theory-based statistical measures are useful for assessing the suitability of items for operational use (i.e., use as part of an assessment used to measure student ability and thus having real-world consequences for students, teachers, schools, and administrators), their values are dependent on both the psychometric properties of the items and the ability distributions of the samples upon which they are based. In other words, classical test theory-based statistics are *sample-dependent statistics*.

In contrast, Item Response Theory (IRT) based statistics are not dependent on the sample over which they are estimated—they are invariant across different samples (Hambleton, Swaminathan & Rogers, 1991; Lord, 1980). This invariance allows student ability to be estimated on a common metric even if different sets of items are used (as with different test forms over different test administrations).

The process of estimating IRT-based item parameters is referred to as “item calibration,” and the placing of these parameters on a common metric or scale is termed “equating.” While one reason for the field testing of items is to allow their suitability for use in the operational measurement of student ability to be assessed, the data resulting from field testing is also used to place items on the scale of the operational test (i.e., they are equated to the operational metric). Once items are on this common metric, any form composed of items from this pool can be scaled (the process through which scale score equivalents for each achievable raw score are derived) and the resulting scale scores will be directly comparable to those from other administrations, even though the underlying test forms are composed of different sets of items.

There are several variations of IRT that differ mainly in the way item behavior is modeled. The New York State Regents Examinations use the Rasch family of IRT statistics to calibrate, scale, and equate all subjects (Rasch, 1980; Masters, 1982).

The most basic expression of the Rasch model is in the item characteristic curve. It conceptualizes the probability of a correct response to an item as a function of the ability level and the item’s difficulty. The probability of a correct response is bounded by “1” (certainty of a correct response) and “0” (certainty of an incorrect response). The ability scale is theoretically unbounded. In practice, the ability scale ranges from approximately -4 to +4 logits. The relationship between examinee ability θ , item difficulty D_i , and probability of answering the item correctly P_i is shown in the equation below:

$$P_i(\theta) = \frac{\exp(\theta - D_i)}{1 + \exp(\theta - D_i)}$$

Examinee ability (θ) and item difficulty (D_i) are on the same scale. This is useful for certain purposes. An examinee with an ability level equal to the item difficulty will have a 50% chance of answering the item correctly; if his or her ability level is higher than the

item difficulty, then the probability of answering the item correctly is commensurately higher, and the converse is also true.

The Rasch Partial Credit Model (PCM) (Masters, 1982) is a direct extension of the dichotomous one-parameter IRT model above. For an item involving m score categories, the general expression for the probability of achieving a score of x on the item is given by

$$P_x(\theta) = \frac{\exp[\sum_{k=0}^x(\theta - D_k)]}{\sum_{h=0}^m \exp[\sum_{k=0}^h(\theta - D_k)]}$$

where

$$D_0 \equiv 0.0$$

In the above equation, P_x is the probability of achieving a score of x given an ability of θ ; m is the number of achievable score points minus one (note that the subscript k runs from 0 to m); and D_k is the step parameter for step k . The steps are numbered from 0 to the number of achievable score points minus one, and step 0 (D_0) is defined as being equal to zero. Note that a four-point item, for example, usually has five achievable score points (0, 1, 2, 3, and 4), thus the step numbers usually mirror the achievable point values.

According to this model, the probability of an examinee scoring in a particular category (step) is the sum of the logit (log-odds) differences between θ and D_k of all the completed steps, divided by the sum of the differences of all the steps of an item. Thissen and Steinberg (1986) refer to this model as a divide-by-total model. The parameters estimated by this model are $m_i - 1$ threshold (difficulty) estimates and represent the points on the ability continuum where the probability of the examinee achieving score m_i exceeds that of $m_i - 1$. The mean of these threshold estimates is used as an overall summary of the polytomous item's difficulty.

If the number of achievable score points is one (i.e., the item is dichotomous), then the PCM reduces to the basic Rasch IRT model for dichotomous items. This means that dichotomous and polytomous items are being scaled using a common model and therefore can be calibrated, equated, and scaled together. It should be noted that the Rasch model assumes that all items have equal levels of discrimination and that there is no guessing on MC items. However, it is robust to violations of these assumptions, and items that violate these assumptions to a large degree are usually flagged for item-model misfit.

Item Calibration

When interpreting IRT item parameters, it is important to remember that they do not have an absolute scale—rather, their scale (in terms of mean and standard deviation) is purely arbitrary. It is conventional to set the mean of the item difficulties to zero when an assessment is scaled for the first time. Rasch IRT scales the theta measures in terms of *logits*, or “log-odds units.” The length of a logit varies from test to test, but generally the standard deviation of the item difficulties of a test scaled for the first time will be

somewhere in the area of 0.6–0.8. While the item difficulties are invariant with respect to one another, the absolute level of difficulty represented by their mean is dependent on the overall difficulty of the group of items with which it was tested. In addition, there is no basis for assuming that the difficulty values are normally distributed around their mean—their distribution again depends solely upon the intrinsic difficulties of the items themselves. Thus, if a particularly difficult set of items (relative to the set of items originally calibrated) was field tested, their overall mean would most probably be greater than zero, and their standard deviation considerably less than one. In addition, they would most probably not be normally distributed.

Rasch item difficulties generally range from –3.0 to 3.0, although very easy or difficult items can fall outside of this range. Items should not be discounted solely on the basis of their difficulty. A particular topic may require either a difficult or an easy item. Items are usually most useful if their difficulty is close to a cut score, as items provide the highest level of information at the ability level equal to their difficulty. Items with difficulties farther away from the cuts provide less information about students with abilities close to the cut scores (and, hence, are more susceptible to misclassification), but are still useful. In general, items should be selected for use based on their content, with their Rasch difficulty being only a secondary consideration.

Item Fit Evaluation

The INFIT statistic is used to assess how well items fit the Rasch model. Rasch theory models the probability of a student being able to answer an item correctly as a function of the student’s level of ability and the item’s difficulty, as stated previously. The Rasch model also assumes that items’ discriminations do not differ, and that the items are not susceptible to guessing. If these assumptions do not hold (if, for example, an item has an extremely high or low level of discrimination), then the item’s behavior will not be well modeled by Rasch IRT. Guidelines for interpretation of the INFIT statistic are taken from Linacre (2005) and can be found in Table 4 below.

Table 4. Criteria to Evaluate Mean-Square Fit Statistics

INFIT	Interpretation
>2.0	Distorts or degrades the measurement system
1.5–2.0	Unproductive for construction of measurement, but not degrading
0.5–1.5	Productive for measurement
<0.5	Unproductive for measurement, but not degrading. May produce misleadingly good reliabilities and separations

INFIT is an information-weighted fit statistic, which is more sensitive to unexpected behavior affecting responses to items near the person's measure (or ability) level. In general, values near 1.0 indicate little distortion of the measurement system, while values less than 1.0 indicate observations are too predictable (redundancy, model overfit). Values greater than 1.0 indicate unpredictability (unmodeled noise, model underfit).

Table 5 contains a summary of the analysis for each of the field test forms. The first column on the left lists the form numbers. The next two columns list the number of students who participated and the number of items on each field test form, respectively. The following columns show the frequency of items at three levels of difficulty (easier items with a Rasch difficulty <-2.0 , moderate items with a Rasch difficulty between -2.0 and 2.0 , and more difficult items with a Rasch difficulty >2.0), and frequencies of item misfits as classified in the preceding table. All but 5 of the items fell within the moderate -2.0 to $+2.0$ difficulty range, and there were no items with an INFIT statistic outside the range most productive for measurement. Item level results of the analysis can be found in Appendix D.

Table 5. Partial-Credit Model Item Analysis Summary

Form	N-Count	No. of Items	Rasch			INFIT			
			<-2.0	-2.0 to 2.0	>2.0	<0.5	0.5 to 1.5	1.5 to 2.0	>2.0
922	835	11	0	11	0	0	11	0	0
923	839	11	0	11	0	0	11	0	0
924	847	11	0	11	0	0	11	0	0
925	844	11	0	11	0	0	11	0	0
926	844	11	0	11	0	0	11	0	0
927	840	11	0	11	0	0	11	0	0
928	850	11	0	10	1	0	11	0	0
929	868	11	0	11	0	0	11	0	0
930	862	11	0	11	0	0	11	0	0
931	876	11	0	10	1	0	11	0	0
932	867	11	0	11	0	0	11	0	0
933	871	11	0	11	0	0	11	0	0
934	857	11	1	10	0	0	11	0	0
935	840	11	0	10	0	0	10	0	0
936	852	11	0	11	0	0	11	0	0
937	841	11	0	10	1	0	11	0	0
938	832	11	0	11	0	0	11	0	0
939	841	11	0	11	0	0	11	0	0
940	847	11	0	11	0	0	11	0	0
941	851	11	0	11	0	0	11	0	0
942	839	11	0	10	1	0	11	0	0
943	839	11	0	11	0	0	11	0	0
944	827	11	0	11	0	0	11	0	0
945	834	11	0	11	0	0	11	0	0
946	822	11	0	11	0	0	11	0	0
947	838	11	0	11	0	0	11	0	0
948	828	11	0	11	0	0	11	0	0
949	833	11	0	11	0	0	11	0	0
950	828	11	0	11	0	0	11	0	0

For some forms, the item counts in the “Rasch” and “INFIT” columns may not sum to the value in the “No. of Items” column due to DNS (Do Not Score) items.

DIFFERENTIAL ITEM FUNCTIONING

Differential Item Functioning (DIF) occurs when members of a particular group have a different probability of success than members of another group who have the same level of ability for reasons unrelated to the academic skill or construct being measured. For example, items testing English grammar skills may be more difficult for LEP students as opposed to non-LEP students, but such differences are likely due to the fact that the item measures an academic skill related to English language proficiency. Such items would not be considered to be functioning differentially.

The Mantel Chi-Square and Standardized Mean Difference

The Mantel χ^2 is a conditional mean comparison of the ordered response categories for reference and focal groups combined over values of the matching variable score. “Ordered” means that a response earning a score of “1” on an item is better than a response earning a score of “0” or “2” is better than “1,” and so on. “Conditional,” on the other hand, refers to the comparison of members from the two groups who received the same score on the matching variable, that is, the total test score in our analysis.

Group	Item Score				Total
	y_1	y_2	...	y_T	
Reference	n_{R1k}	n_{R2k}	...	n_{Rtk}	n_{R+k}
Focal	n_{F1k}	n_{F2k}	...	n_{Ftk}	n_{F+k}
Total	n_{+1k}	n_{+2k}	...	n_{+tk}	n_{++k}

Figure 1. $2 \times t$ Contingency Table at the k^{th} of K Levels.

Figure 1 (from Zwick, Donoghue & Grima, 1993) shows a $2 \times t$ contingency table at the k^{th} of K levels, where t represents the number of response categories and k represents the number of levels of the matching variable. The values y_1, y_2, \dots, y_T represent the t scores that can be gained on the item. The values n_{Ftk} and n_{Rtk} represent the numbers of focal and reference groups who are at the k^{th} level of the matching variable and gain an item score of y_t . The “+” indicates the total number over a particular index (Zwick et al., 1993). The Mantel statistic is defined as the following formula:

$$\text{Mantel}\chi^2 = \frac{\left(\sum_k F_k - \sum_k E(F_k) \right)^2}{\sum_k \text{Var}(F_k)}$$

in which F_k represents the sum of scores for the focal group at the k^{th} level of the matching variable and is defined as follows:

$$F_k = \sum_t y_t n_{Ftk}$$

The expectation of F_k under the null hypothesis is

$$E(F_k) = \frac{n_{F+k}}{n_{++k}} \sum_t y_t n_{Ftk}$$

The variance of F_k under the null hypothesis is as follows:

$$\text{Var}(F_k) = \frac{n_{R+k}n_{F+k}}{n_{++k}^2(n_{++k} - 1)} \left[(n_{++k} \sum_t y_t^2 n_{+tk}) - (\sum_t y_t n_{+tk})^2 \right]$$

Under H_0 , the Mantel statistic has a chi-square distribution with one degree of freedom. In DIF applications, rejecting H_0 suggests that the students of the reference and focal groups who are similar in overall test performance tend to differ in their mean performance on the item. For dichotomous items the statistic is identical to the Mantel-Haenszel (MH) (1959) statistic without the continuity correction (Zwick et al., 1993).

A summary statistic to accompany the Mantel approach is the standardized mean difference (SMD) between the reference and focal groups proposed by Dorans and Schmitt (1991). This statistic compares the means of the reference and focal groups, adjusting for differences in the distribution of the reference and focal group members across the values of the matching variable. The SMD has the following form:

$$\text{SMD} = \sum_k p_{Fk} m_{Fk} - \sum_k p_{Fk} m_{Rk}$$

in which

$$p_{Fk} = \frac{n_{F+k}}{n_{F++}}$$

is the proportion of the focal group members who are at the k^{th} level of the matching variable;

$$m_{Fk} = \frac{1}{n_{F+k} \sum_t y_t n_{Ftk}}$$

is the mean item score of the focal group members at the k^{th} level; and m_{Rk} is the analogous value for the reference group. As can be seen from the equation above, the SMD is the difference between the unweighted item mean of the focal group and the weighted item mean of the reference group. The weights for the reference group are applied to make the weighted number of the reference-group students the same as in the focal group within the same level of ability. A negative SMD value implies that the focal group has a lower mean item score than the reference group, conditional on the matching variable.

Multiple-Choice Items

For the MC items, the MH odds ratio (converted to the ETS delta scale [D]) is used to classify items into one of three categories of DIF.

The Odds Ratio

The odds of a correct response (proportion passing divided by proportion failing) are P/Q or $P/(1-P)$. The *odds ratio* is the odds of a correct response of the reference group divided by the odds of a correct response of the focal group. For a given item, the odds ratio is defined as follows:

$$\alpha_{MH} = \frac{P_r/Q_r}{P_f/Q_f}$$

and the corresponding null hypothesis is that the odds of getting the item correct are equal for the two groups. Thus, the odds ratio is equal to 1:

$$\alpha_{MH} = \frac{P_r/Q_r}{P_f/Q_f} = 1$$

The Delta Scale

To make the odds ratio symmetrical around zero with its range being in the interval $-\infty$ to $+\infty$, the odds ratio is transformed into a log odds ratio according to this equation:

$$\beta_{MH} = \ln(\alpha_{MH})$$

This simple natural logarithm transformation of the odds ratio is symmetrical around zero. This DIF measure is a signed index; a positive value signifies DIF in favor of the reference group, a negative value indicates DIF in favor of the focal group, and zero has the interpretation of equal odds of success on the item. β_{MH} also has the advantage of a linear relationship to other interval scale metrics (Camilli & Shepard, 1994). β_{MH} is placed on the ETS delta scale (D) using the following equation:

$$D = -2.35\beta_{MH}$$

DIF Classification for MC Items

Table 6 depicts DIF classifications for MC items. Classification depends on the delta (D) value and the significance of its difference from zero ($p < 0.05$). The criteria are derived from those used by the National Assessment of Educational Progress (Allen, Carlson & Zelenak, 1999) in the development of their assessments.

Table 6. DIF Classification for MC Items

Category	Description	Criterion
A	No DIF	D not significantly different from zero or $ D < 1.0$
B	Moderate DIF	$1.0 \leq D < 1.5$ or not otherwise A or C
C	High DIF	D is significantly different from zero and $ D \geq 1.5$

DIF Classification for CR Items

The SMD is divided by the total group item standard deviation to obtain an effect-size value for the SMD (ES_{SMD}). The value of ES_{SMD} and the significance of the Mantel χ^2 statistic ($p < 0.05$) then are used to determine the DIF category of the item as depicted in Table 7 on the next page.

Table 7. DIF Classification for CR Items

Category	Description	Criterion
AA	No DIF	Non-significant Mantel χ^2 or $ ES_{SMD} \leq 0.17$
BB	Moderate DIF	Significant Mantel χ^2 and $0.17 < ES_{SMD} \leq 0.25$
CC	High DIF	Significant Mantel χ^2 and $0.25 < ES_{SMD} $

Reliable DIF results are dependent on the number of examinees in both the focal and reference groups. Clauser and Mazor (1998) state that a minimum of 200 to 250 examinees per group are sufficient to provide reliable results. Some testing organizations require as many as 300 to 400 examinees per group (Zwick, 2012) in some applications. For the field testing of the Regents examinations, the sample sizes were such that only comparisons based on gender (e.g., males vs. females) were possible. Even for gender, sample sizes were only moderately large, and so the results should be interpreted with caution.

The DIF statistics for gender are shown in Appendix E. MC items in DIF categories “B” and “C” and CR items in categories “BB” and “CC” were flagged. These flags are shown in the “DIF Category” column (“A” and “AA” category items will have blank cells here). The “Favored Group” column indicates which gender is favored for items that are flagged.

Section III: Equating Procedure

Students participating in the 2014 field test administration for the New York State Regents Examination in Algebra 2/Trigonometry received one of 50 test forms (numbered 901–950). Forms 922–950 addressed the Non-Common Core-based curriculum. Forms 949 and 950 were the anchor forms for the equating and were intact forms that had been administered in the prior year. Because the forms had been previously administered, their items had known parameters on the operational scale. The remaining test forms were composed of items that had not been administered to New York State students. Test forms were spiraled within classrooms, so that students had an equal chance of receiving any of the 50 forms, depending solely on their ordinal position within the classroom. In essence, students were randomly assigned to test forms, forming randomly equivalent groups taking each of the forms. Appendices A and D (with the classical and Rasch IRT item level statistics) may be consulted to determine the characteristics of the items (e.g., item type and maximum number of points possible) that made up each form.

RANDOMLY EQUIVALENT GROUP EQUATING DESIGN

The equating analyses were based on the assumption that the groups taking the different forms had equivalent ability distributions and means. Given the random assignment of forms to examinees, this was a reasonable assumption. The initial step in the analyses was to calibrate all forms, both the anchor form and the remaining field test forms. All forms were calibrated using Winsteps, version 3.60 (Linacre, 2005).

The anchor form calibration began with all anchor item difficulty parameters fixed to their known values from the previous year. Because it is possible for item parameters to “drift” (shift their difficulties relative to one another), a stability check was integrated into the analysis.

Winsteps provides an item level statistic, termed “displacement.” Linacre (2011, p. 545) describes this statistic as:

...the size of the change in the parameter estimate that would be observed in the next estimation iteration if this parameter was free (unanchored) and all other parameter estimates were anchored at their current values. For a parameter (item or person) that is anchored in the main estimation, (the displacement value) indicates the size of disagreement between an estimate based on the current data and the anchor value.

This statistic was used to identify items with difficulties that had shifted, relative to the difficulties of the other items on the form. After the initial calibration run, the Winsteps displacement values for all anchor form items were examined for absolute values greater than 0.30. If present, the item with the largest absolute displacement value was removed from anchored status, but remained on the test form. Its difficulty value was subsequently reestimated relative to the difficulties of the remaining anchored items. The Winsteps calibration was then rerun with the reduced anchor set, after which the displacement values were again checked for absolute values in excess of 0.30. If another was found, it was also removed from anchored status and the calibration rerun. This iterative procedure continued until all anchored items had displacements of 0.30 or less. No items were identified as having drifted for the 2014 analyses.

After a stable anchor item set had been identified, the mean of the ability estimates of the students who took the anchor forms were computed.² The average of these mean ability estimates was then used as the target ability for the forms with the field test items. Because the groups taking the different forms were randomly equivalent and thus had the same mean ability, adjustment of the parameters of the field test items on any form to values that produced an ability distribution for students who had taken the form with a mean equal to a common target ability from the anchor forms would result in the parameters for the field test items on that form being equated to the scale of the anchor form, which was also the operational scale. Because this target was derived from multiple anchor forms, the anchor forms were also equated to this common target.

The equated mean ability estimate for form 949 was -0.31 and for Form 950 was -0.25 . The average of these means was -0.28 . This value became the target for the field test form equating.

² Because under Rasch IRT the ability of students with extreme scores (either zero or perfect scores) cannot be exactly computed (they are equal to $-\infty$ and $+\infty$, respectively), they were excluded from this and all other analyses for both the anchor and other field test forms.

The next step was the initial calibration of the field test forms (including the anchor forms). This was a “free” calibration, meaning that the item parameters were not constrained in any way. This initial calibration produced a set of Rasch difficulty parameters for the items on each form. Also produced as a part of the Winsteps calibration was a set of person ability estimates for each form.

The next step was the computation of an equating constant for each form. Under Rasch IRT, if all of the difficulty parameters on a form have a constant added to them, the ability estimates for examinees will also be changed from their previous values by the amount represented by that constant. Therefore, to adjust the item difficulty parameters such that the mean of the ability distribution is set equal to the target mean ability from the anchor form, an equating constant was calculated for each field test form by subtracting the field test form mean ability from the target mean ability. This value was then added to the Rasch difficulty parameter of all items on the field test form. These adjusted values were then used as anchors for a second Winsteps calibration of the field test form. The mean of the person ability values from this second calibration was computed and compared to the target mean. If the anchored field test mean ability differed from the target mean ability by 0.005 or more, then an additional equating constant was computed using the difference between the mean ability from the field test form anchored run and the target mean ability, and another anchored run was completed. This process continued until all adjusted field test form mean abilities were within the 0.005 tolerance limit around the targeted mean ability. The final equating constant for any field test form was the sum of the constants from each anchored round for that form. At this point, with the adjusted mean abilities for the field test forms all equal (within the specified limits) to the target abilities, all of the adjusted field test item parameters and the anchor item parameters were on the common operational scale, and thus could be used in any subsequent operational administration. The initial mean abilities and final equating constants for the field test forms can be found in Table 8.

Table 8. Initial Mean Abilities and Equating Constants

Form Number	Mean Ability	Constant
922	-0.49	0.21
923	-0.52	0.23
924	-0.70	0.40
925	-0.69	0.39
926	-0.64	0.34
927	-0.41	0.13
928	-0.76	0.46
929	-0.15	-0.12
930	-0.50	0.21
931	-0.78	0.48
932	-0.62	0.32
933	-0.50	0.21
934	-0.50	0.21
935	-0.44	0.15
936	-0.68	0.38
937	-0.85	0.55
938	-0.22	-0.05
939	-0.29	0.01
940	-0.82	0.51
941	-0.38	0.10
942	-0.78	0.48
943	-0.43	0.14
944	-0.55	0.26
945	-0.49	0.20
946	-0.68	0.39
947	-0.09	-0.18
948	-0.49	0.20
949	-0.05	-0.22
950	-0.21	-0.06

Section IV: Scaling of Operational Test Forms

Operational test items were selected based on content coverage, content accuracy, and statistical quality. The sets of items on each operational test conformed to the coverage determined by content experts working from the learning standards established by the New York State Education Department and explicated in the test blueprint. Each item's classical and Rasch statistics were used to assess item quality. Items were selected to vary in difficulty to accurately measure students' abilities across the ability continuum. Appendix F contains the 2014 operational test maps for the January and June administrations.

All Regents examinations have two cut scores, which are set at the scale scores of 65 and 85. One of the primary considerations during test construction was to select items so as to minimize changes in the raw scores corresponding to these two scale scores. Maintaining a consistent mean Rasch difficulty level from administration to administration facilitates this. For this assessment, the target value for the mean Rasch difficulty was set at 0.031. It should be noted that the raw scores corresponding to the scale score cut scores may still fluctuate even if the mean Rasch difficulty level is maintained at the target value due to differences in the distributions of the Rasch difficulty values amongst the items from administration to administration.

The relationship between raw and scale scores is explicated in the scoring tables for each administration. These tables can be found in Appendix G, and cover the January and June administrations. These tables are the end product of the following scaling procedure.

All Regents examinations are equated back to a base scale that is held constant from year to year. Specifically, they are equated to the base scale through the use of a calibrated item pool. The Rasch difficulties from the items' initial administration on a previous year's field test are used to equate the scale for the current administration to the base administration. For this examination, the base administration was the June 2010 administration. Scale scores from the 2014 administrations are on the same scale and can be directly compared to scale scores on all previous administrations back to and including the June 2010 administration.

When the base administration was concluded, the initial raw score-to-scale score relationship was established. Four raw scores were fixed at specific scale scores. Scale scores of 0 and 100 were fixed to correspond to the minimum and maximum possible raw scores. In addition, a standard setting had been held to determine the passing and passing with distinction cut scores in the raw score metric. The scale score points of 65 and 85 were set to correspond to those raw score cuts. A third degree polynomial is required in order to fit a line exactly to four arbitrary points (e.g., the raw scores corresponding to the four critical scale scores of 0, 65, 85, and 100). The general form of this best fitting line is:

$$SS = m_3 * RS^3 + m_2 * RS^2 + m_1 * RS + m_0$$

where SS is the scaled score, RS is the raw score, and m_0 through m_3 are the transformation constants that convert the raw score into the scale score (please note that m_0 will always be equal to zero in this application since a raw score of zero corresponds to a scale score of zero). The above relationship and the values of m_1 to m_3 specific to this subject were then used to determine the scale scores corresponding to the remainder of the raw scores on the examination. This initial relationship between the raw and scale scores then became the base scale.

The Rasch difficulty parameters for the items on the base form were used to derive a raw score to Rasch student ability (theta score) relationship. This allowed the

relationship between the Rasch theta score and the scale score to be known, mediated through their common relationship with the raw scores.

In succeeding years, each test form was selected from the pool of items that had been tested in previous years' field tests, each of which had known Rasch item difficulty parameter(s). These known parameters were used to construct the relationship between the raw and Rasch theta scores for that particular form.³ Because the Rasch difficulty parameters are all on a common scale, the Rasch theta scores were also on a common scale with previously administered forms. The remaining step in the scaling process was to find the scale score equivalent for the Rasch theta score corresponding to each raw score point on the new form using the theta-to-scale score relationship established in the base year. This was done via linear interpolation.

This process results in a relationship between the raw scores on the form and the overall scale scores. The scale scores corresponding to each raw score are then rounded to the nearest integer for reporting on the conversion chart (posted at the close of each administration). The only exceptions are for the minimum and maximum raw scores and the raw scores that correspond to the scaled cut scores of 65 and 85.

The minimum (zero) and maximum possible raw scores are assigned scale scores of 0 and 100, respectively. In the event that there are raw scores less than the maximum with scale scores that round to 100, their scale scores are set equal to 99. A similar process is followed with the minimum score; if any raw scores other than zero have scale scores that round to zero, their scale scores are instead set equal to one.

With regard to the cuts, if two or more scale scores round to either 65 or 85, the lowest raw score's scale score is set equal to a 65 or 85 and the scale scores corresponding to the higher raw scores are set to 66 or 86 as appropriate. If no scale score rounds to either of these two critical cuts, then the raw score with the largest scale score that is less than the cut is set equal to the cut. The overarching principle when two raw scores both round to either scale score cut is that the lower of the raw scores is always assigned to be equal to the cut so that students are never penalized for this ambiguity.

³ All Regents examinations are pre-equated, meaning that the parameters used to derive the relationship between the raw and scale scores are estimated prior to the construction and administration of the operational form. These field tests are administered to as small a sample of students as possible in order to minimize the impact on student instructional time across the state. The small N-Counts associated with such administrations are sufficient for reasonably accurate estimation of most items' parameters; however, for the six-point item, its parameters can be unstable when estimated across as small a sample as is typically used. Therefore, a set of constants is used for these items' parameters on operational exams. These constants were set by the NYSED and are based on the values in the bank for all similar items.

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Appendix A: Classical Item Analysis

In the following table, “Max” is the maximum number of possible points. “N-Count” refers to the number of student records in the analysis. “Alpha” contains Cronbach’s Coefficient α (since this is a test [form] level statistic, it has the same value for all items within each form). For MC items, “B” represents the proportion of students who left the item blank, and “M1” through “M6” are the proportions of students who selected each of the four answer choices. For CR items, “B” represents the proportion of students who left the item blank, and “M0” through “M6” are the proportions of students who received scores of 0 through 6. “Mean” is the average of the scores received by the students. The final (right) column contains the Point-Biserial correlation for each item. There may be some instances of items with missing statistics; this occurs when an item was not scored.

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	922	MC	01	1	835	0.63	0.03		0.26	0.51	0.07	0.12			0.51	0.30
2014_TRIG	922	MC	02	1	835	0.63	0.05		0.29	0.25	0.28	0.12			0.29	0.37
2014_TRIG	922	MC	03	1	835	0.63	0.07		0.37	0.19	0.26	0.10			0.37	0.36
2014_TRIG	922	MC	04	1	835	0.63	0.03		0.05	0.15	0.20	0.57			0.57	0.50
2014_TRIG	922	MC	05	1	835	0.63	0.03		0.40	0.18	0.23	0.17			0.40	0.43
2014_TRIG	922	MC	06	1	835	0.63	0.04		0.08	0.66	0.15	0.07			0.66	0.38
2014_TRIG	922	MC	07	1	835	0.63	0.05		0.08	0.45	0.36	0.06			0.45	0.48
2014_TRIG	922	CR	08	2	835	0.63	0.21	0.40	0.13	0.26					0.66	0.49
2014_TRIG	922	CR	09	2	835	0.63	0.14	0.47	0.31	0.07					0.45	0.47
2014_TRIG	922	CR	10	4	835	0.63	0.23	0.58	0.06	0.05	0.01	0.07			0.48	0.61
2014_TRIG	922	CR	11	4	835	0.63	0.29	0.47	0.09	0.03	0.06	0.06			0.57	0.69
2014_TRIG	923	MC	01	1	839	0.66	0.04		0.39	0.38	0.13	0.06			0.39	0.39
2014_TRIG	923	MC	02	1	839	0.66	0.02		0.19	0.38	0.21	0.20			0.38	0.37
2014_TRIG	923	MC	03	1	839	0.66	0.02		0.34	0.06	0.49	0.08			0.34	0.40
2014_TRIG	923	MC	04	1	839	0.66	0.03		0.18	0.15	0.42	0.21			0.42	0.43
2014_TRIG	923	MC	05	1	839	0.66	0.04		0.20	0.42	0.26	0.10			0.42	0.37
2014_TRIG	923	MC	06	1	839	0.66	0.04		0.11	0.11	0.64	0.10			0.64	0.40

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	923	MC	07	1	839	0.66	0.04		0.28	0.28	0.16	0.24			0.24	0.35
2014_TRIG	923	CR	08	2	839	0.66	0.11	0.46	0.11	0.32					0.76	0.59
2014_TRIG	923	CR	09	4	839	0.66	0.11	0.45	0.05	0.06	0.03	0.31			1.48	0.75
2014_TRIG	923	CR	10	4	839	0.66	0.24	0.55	0.04	0.07	0.02	0.09			0.58	0.66
2014_TRIG	923	CR	11	2	839	0.66	0.19	0.47	0.23	0.12					0.46	0.56
2014_TRIG	924	MC	01	1	847	0.61	0.02		0.06	0.02	0.34	0.56			0.56	0.21
2014_TRIG	924	MC	02	1	847	0.61	0.03		0.12	0.52	0.22	0.11			0.52	0.40
2014_TRIG	924	MC	03	1	847	0.61	0.04		0.26	0.21	0.37	0.11			0.26	0.26
2014_TRIG	924	MC	04	1	847	0.61	0.04		0.19	0.27	0.24	0.25			0.19	0.36
2014_TRIG	924	MC	05	1	847	0.61	0.04		0.38	0.24	0.14	0.20			0.38	0.27
2014_TRIG	924	MC	06	1	847	0.61	0.04		0.14	0.19	0.35	0.28			0.35	0.30
2014_TRIG	924	MC	07	1	847	0.61	0.06		0.11	0.14	0.52	0.17			0.52	0.35
2014_TRIG	924	CR	08	2	847	0.61	0.13	0.42	0.13	0.33					0.78	0.65
2014_TRIG	924	CR	09	4	847	0.61	0.08	0.33	0.28	0.11	0.09	0.11			1.23	0.73
2014_TRIG	924	CR	10	2	847	0.61	0.18	0.61	0.17	0.05					0.27	0.54
2014_TRIG	924	CR	11	4	847	0.61	0.30	0.49	0.09	0.03	0.04	0.05			0.46	0.64
2014_TRIG	925	MC	01	1	844	0.63	0.03		0.23	0.20	0.33	0.22			0.33	0.44
2014_TRIG	925	MC	02	1	844	0.63	0.04		0.07	0.58	0.27	0.04			0.58	0.34
2014_TRIG	925	MC	03	1	844	0.63	0.03		0.12	0.31	0.20	0.34			0.20	0.34
2014_TRIG	925	MC	04	1	844	0.63	0.04		0.07	0.49	0.15	0.26			0.49	0.39
2014_TRIG	925	MC	05	1	844	0.63	0.03		0.14	0.14	0.60	0.09			0.60	0.36
2014_TRIG	925	MC	06	1	844	0.63	0.05		0.20	0.26	0.35	0.15			0.35	0.40
2014_TRIG	925	MC	07	1	844	0.63	0.04		0.26	0.29	0.19	0.22			0.22	0.24
2014_TRIG	925	CR	08	4	844	0.63	0.05	0.44	0.10	0.05	0.12	0.24			1.52	0.75
2014_TRIG	925	CR	09	2	844	0.63	0.23	0.54	0.10	0.13					0.36	0.56
2014_TRIG	925	CR	10	2	844	0.63	0.25	0.51	0.14	0.11					0.35	0.61
2014_TRIG	925	CR	11	4	844	0.63	0.12	0.58	0.10	0.13	0.02	0.04			0.58	0.60
2014_TRIG	926	MC	01	1	844	0.64	0.04		0.18	0.48	0.18	0.11			0.48	0.38

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	926	MC	02	1	844	0.64	0.04		0.51	0.12	0.23	0.10			0.51	0.45
2014_TRIG	926	MC	03	1	844	0.64	0.03		0.37	0.08	0.11	0.41			0.41	0.28
2014_TRIG	926	MC	04	1	844	0.64	0.03		0.32	0.03	0.05	0.57			0.32	0.34
2014_TRIG	926	MC	05	1	844	0.64	0.05		0.15	0.28	0.17	0.35			0.35	0.48
2014_TRIG	926	MC	06	1	844	0.64	0.04		0.34	0.18	0.28	0.15			0.28	0.33
2014_TRIG	926	MC	07	1	844	0.64	0.03		0.25	0.27	0.19	0.26			0.26	0.38
2014_TRIG	926	CR	08	4	844	0.64	0.22	0.51	0.04	0.11	0.03	0.08			0.70	0.70
2014_TRIG	926	CR	09	2	844	0.64	0.10	0.16	0.08	0.66					1.39	0.50
2014_TRIG	926	CR	10	4	844	0.64	0.17	0.62	0.08	0.08	0.02	0.04			0.43	0.62
2014_TRIG	926	CR	11	2	844	0.64	0.16	0.47	0.22	0.15					0.51	0.58
2014_TRIG	927	MC	01	1	840	0.68	0.03		0.21	0.11	0.19	0.46			0.46	0.55
2014_TRIG	927	MC	02	1	840	0.68	0.02		0.05	0.11	0.63	0.19			0.63	0.41
2014_TRIG	927	MC	03	1	840	0.68	0.05		0.07	0.45	0.23	0.20			0.45	0.42
2014_TRIG	927	MC	04	1	840	0.68	0.06		0.14	0.23	0.19	0.38			0.38	0.40
2014_TRIG	927	MC	05	1	840	0.68	0.04		0.21	0.21	0.41	0.12			0.41	0.33
2014_TRIG	927	MC	06	1	840	0.68	0.04		0.50	0.17	0.16	0.14			0.50	0.47
2014_TRIG	927	MC	07	1	840	0.68	0.08		0.35	0.26	0.18	0.13			0.35	0.34
2014_TRIG	927	CR	08	4	840	0.68	0.05	0.36	0.22	0.23	0.06	0.07			1.14	0.68
2014_TRIG	927	CR	09	4	840	0.68	0.28	0.30	0.08	0.17	0.05	0.12			1.06	0.66
2014_TRIG	927	CR	10	2	840	0.68	0.15	0.31	0.17	0.37					0.92	0.61
2014_TRIG	927	CR	11	2	840	0.68	0.21	0.44	0.23	0.12					0.47	0.55
2014_TRIG	928	MC	01	1	850	0.56	0.03		0.09	0.30	0.31	0.26			0.26	0.41
2014_TRIG	928	MC	02	1	850	0.56	0.03		0.16	0.36	0.34	0.11			0.36	0.36
2014_TRIG	928	MC	03	1	850	0.56	0.02		0.52	0.09	0.33	0.04			0.52	0.31
2014_TRIG	928	MC	04	1	850	0.56	0.04		0.38	0.22	0.11	0.25			0.38	0.34
2014_TRIG	928	MC	05	1	850	0.56	0.04		0.52	0.18	0.10	0.17			0.52	0.41
2014_TRIG	928	MC	06	1	850	0.56	0.03		0.16	0.22	0.21	0.39			0.39	0.43
2014_TRIG	928	MC	07	1	850	0.56	0.03		0.16	0.20	0.21	0.39			0.39	0.43

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	928	CR	08	2	850	0.56	0.09	0.81	0.08	0.02					0.12	0.31
2014_TRIG	928	CR	09	2	850	0.56	0.13	0.52	0.24	0.10					0.45	0.49
2014_TRIG	928	CR	10	2	850	0.56	0.18	0.45	0.06	0.31					0.69	0.53
2014_TRIG	928	CR	11	6	850	0.56	0.24	0.59	0.04	0.04	0.03	0.02	0.02	0.02	0.51	0.68
2014_TRIG	929	MC	01	1	868	0.58	0.03		0.12	0.12	0.15	0.58			0.58	0.43
2014_TRIG	929	MC	02	1	868	0.58	0.03		0.08	0.09	0.74	0.07			0.74	0.37
2014_TRIG	929	MC	03	1	868	0.58	0.05		0.26	0.22	0.26	0.21			0.21	0.22
2014_TRIG	929	MC	04	1	868	0.58	0.04		0.13	0.45	0.16	0.22			0.45	0.34
2014_TRIG	929	MC	05	1	868	0.58	0.03		0.10	0.09	0.70	0.08			0.70	0.38
2014_TRIG	929	MC	06	1	868	0.58	0.03		0.28	0.13	0.14	0.42			0.42	0.37
2014_TRIG	929	MC	07	1	868	0.58	0.06		0.09	0.57	0.15	0.13			0.57	0.41
2014_TRIG	929	CR	08	2	868	0.58	0.09	0.57	0.24	0.10					0.44	0.45
2014_TRIG	929	CR	09	6	868	0.58	0.14	0.74	0.05	0.02	0.00	0.00	0.00	0.04	0.35	0.57
2014_TRIG	929	CR	10	2	868	0.58	0.08	0.19	0.07	0.66					1.40	0.56
2014_TRIG	929	CR	11	2	868	0.58	0.12	0.40	0.11	0.37					0.84	0.63
2014_TRIG	930	MC	01	1	862	0.57	0.02		0.08	0.17	0.10	0.62			0.62	0.52
2014_TRIG	930	MC	02	1	862	0.57	0.03		0.03	0.08	0.16	0.70			0.70	0.48
2014_TRIG	930	MC	03	1	862	0.57	0.02		0.08	0.38	0.43	0.09			0.38	0.16
2014_TRIG	930	MC	04	1	862	0.57	0.04		0.44	0.19	0.25	0.09			0.44	0.41
2014_TRIG	930	MC	05	1	862	0.57	0.04		0.27	0.26	0.27	0.16			0.26	0.22
2014_TRIG	930	MC	06	1	862	0.57	0.05		0.11	0.38	0.38	0.07			0.38	0.28
2014_TRIG	930	MC	07	1	862	0.57	0.03		0.56	0.10	0.27	0.04			0.56	0.48
2014_TRIG	930	CR	08	2	862	0.57	0.35	0.29	0.26	0.10					0.46	0.44
2014_TRIG	930	CR	09	2	862	0.57	0.09	0.42	0.13	0.37					0.86	0.64
2014_TRIG	930	CR	10	6	862	0.57	0.22	0.56	0.08	0.04	0.06	0.00	0.01	0.04	0.59	0.67
2014_TRIG	930	CR	11	2	862	0.57	0.34	0.55	0.07	0.04					0.15	0.41
2014_TRIG	931	MC	01	1	876	0.60	0.04		0.36	0.12	0.17	0.31			0.31	0.37
2014_TRIG	931	MC	02	1	876	0.60	0.04		0.12	0.21	0.54	0.09			0.54	0.42

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	931	MC	03	1	876	0.60	0.04		0.07	0.16	0.12	0.61			0.61	0.48
2014_TRIG	931	MC	04	1	876	0.60	0.06		0.11	0.23	0.15	0.45			0.45	0.36
2014_TRIG	931	MC	05	1	876	0.60	0.05		0.07	0.26	0.35	0.26			0.35	0.46
2014_TRIG	931	MC	06	1	876	0.60	0.05		0.23	0.16	0.35	0.21			0.21	0.32
2014_TRIG	931	MC	07	1	876	0.60	0.05		0.10	0.57	0.08	0.19			0.57	0.39
2014_TRIG	931	CR	08	6	876	0.60	0.21	0.54	0.10	0.05	0.02	0.00	0.01	0.07	0.75	0.77
2014_TRIG	931	CR	09	2	876	0.60	0.22	0.47	0.15	0.16					0.47	0.50
2014_TRIG	931	CR	10	2	876	0.60	0.16	0.77	0.04	0.03					0.10	0.49
2014_TRIG	931	CR	11	2	876	0.60	0.34	0.53	0.05	0.07					0.20	0.45
2014_TRIG	932	MC	01	1	867	0.59	0.03		0.14	0.43	0.28	0.12			0.43	0.38
2014_TRIG	932	MC	02	1	867	0.59	0.04		0.25	0.19	0.24	0.28			0.28	0.36
2014_TRIG	932	MC	03	1	867	0.59	0.02		0.10	0.32	0.46	0.09			0.46	0.34
2014_TRIG	932	MC	04	1	867	0.59	0.05		0.14	0.24	0.36	0.21			0.36	0.26
2014_TRIG	932	MC	05	1	867	0.59	0.03		0.20	0.33	0.15	0.29			0.33	0.31
2014_TRIG	932	MC	06	1	867	0.59	0.03		0.32	0.04	0.55	0.06			0.55	0.47
2014_TRIG	932	MC	07	1	867	0.59	0.05		0.14	0.46	0.20	0.14			0.46	0.41
2014_TRIG	932	CR	08	2	867	0.59	0.22	0.65	0.06	0.08					0.21	0.48
2014_TRIG	932	CR	09	2	867	0.59	0.16	0.34	0.14	0.37					0.87	0.62
2014_TRIG	932	CR	10	4	867	0.59	0.24	0.45	0.02	0.21	0.02	0.06			0.73	0.60
2014_TRIG	932	CR	11	4	867	0.59	0.31	0.49	0.10	0.03	0.02	0.05			0.42	0.58
2014_TRIG	933	MC	01	1	871	0.68	0.02		0.67	0.10	0.08	0.13			0.67	0.50
2014_TRIG	933	MC	02	1	871	0.68	0.04		0.18	0.39	0.23	0.17			0.39	0.39
2014_TRIG	933	MC	03	1	871	0.68	0.04		0.14	0.13	0.60	0.08			0.60	0.42
2014_TRIG	933	MC	04	1	871	0.68	0.03		0.30	0.24	0.33	0.10			0.33	0.38
2014_TRIG	933	MC	05	1	871	0.68	0.05		0.20	0.29	0.19	0.27			0.27	0.27
2014_TRIG	933	MC	06	1	871	0.68	0.04		0.08	0.25	0.52	0.09			0.52	0.31
2014_TRIG	933	MC	07	1	871	0.68	0.06		0.18	0.17	0.56	0.03			0.56	0.43
2014_TRIG	933	CR	08	2	871	0.68	0.10	0.56	0.15	0.19					0.53	0.66

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	933	CR	09	4	871	0.68	0.10	0.50	0.05	0.17	0.12	0.07			1.01	0.70
2014_TRIG	933	CR	10	4	871	0.68	0.28	0.35	0.23	0.09	0.05	0.01			0.57	0.62
2014_TRIG	933	CR	11	2	871	0.68	0.30	0.40	0.11	0.19					0.50	0.57
2014_TRIG	934	MC	01	1	857	0.61	0.01		0.02	0.14	0.82	0.02			0.82	0.24
2014_TRIG	934	MC	02	1	857	0.61	0.03		0.12	0.17	0.10	0.58			0.58	0.50
2014_TRIG	934	MC	03	1	857	0.61	0.03		0.29	0.36	0.12	0.20			0.29	0.34
2014_TRIG	934	MC	04	1	857	0.61	0.04		0.29	0.28	0.28	0.10			0.28	0.28
2014_TRIG	934	MC	05	1	857	0.61	0.02		0.14	0.66	0.09	0.09			0.66	0.42
2014_TRIG	934	MC	06	1	857	0.61	0.02		0.06	0.25	0.07	0.60			0.60	0.40
2014_TRIG	934	MC	07	1	857	0.61	0.04		0.28	0.22	0.32	0.14			0.14	0.25
2014_TRIG	934	CR	08	2	857	0.61	0.19	0.68	0.07	0.06					0.19	0.42
2014_TRIG	934	CR	09	4	857	0.61	0.12	0.45	0.12	0.18	0.06	0.07			0.96	0.70
2014_TRIG	934	CR	10	2	857	0.61	0.13	0.44	0.12	0.31					0.74	0.61
2014_TRIG	934	CR	11	4	857	0.61	0.21	0.50	0.10	0.14	0.02	0.04			0.58	0.61
2014_TRIG	935	MC	01	1	840	0.54	0.06		0.13	0.26	0.25	0.30			0.30	0.41
2014_TRIG	935	MC	02	1	840	0.54	0.04		0.07	0.15	0.16	0.57			0.57	0.40
2014_TRIG	935	MC	03	1	840	0.54	0.04		0.62	0.19	0.10	0.05			0.62	0.38
2014_TRIG	935	MC	04	1	840	0.54	0.03		0.11	0.31	0.25	0.30			0.30	0.14
2014_TRIG	935	MC	05	1	840	0.54	0.04		0.16	0.15	0.21	0.44			0.44	0.41
2014_TRIG	935	MC	06	1	840	0.54	0.05		0.12	0.51	0.16	0.16			0.51	0.38
2014_TRIG	935	MC	07	1	840	0.54	0.06		0.21	0.19	0.11	0.44			0.44	0.38
2014_TRIG	935	CR	08	2	840	0.54	0.10	0.44	0.32	0.13					0.59	0.50
2014_TRIG	935	CR	09	2	840	0.54	0.26	0.44	0.14	0.16					0.47	0.54
2014_TRIG	935	CR	10	.												
2014_TRIG	935	CR	11	6	840	0.54	0.16	0.49	0.12	0.03	0.10	0.03	0.03	0.04	0.99	0.76
2014_TRIG	936	MC	01	1	852	0.65	0.03		0.20	0.09	0.10	0.58			0.58	0.38
2014_TRIG	936	MC	02	1	852	0.65	0.04		0.09	0.14	0.60	0.13			0.60	0.42
2014_TRIG	936	MC	03	1	852	0.65	0.03		0.22	0.25	0.14	0.35			0.35	0.42

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	936	MC	04	1	852	0.65	0.04		0.28	0.13	0.42	0.12			0.42	0.37
2014_TRIG	936	MC	05	1	852	0.65	0.03		0.38	0.20	0.19	0.19			0.19	0.34
2014_TRIG	936	MC	06	1	852	0.65	0.04		0.38	0.28	0.14	0.16			0.38	0.39
2014_TRIG	936	MC	07	1	852	0.65	0.04		0.21	0.31	0.26	0.18			0.31	0.21
2014_TRIG	936	CR	08	4	852	0.65	0.05	0.58	0.09	0.12	0.09	0.08			0.92	0.76
2014_TRIG	936	CR	09	2	852	0.65	0.13	0.39	0.33	0.15					0.63	0.47
2014_TRIG	936	CR	10	2	852	0.65	0.22	0.45	0.14	0.19					0.51	0.62
2014_TRIG	936	CR	11	4	852	0.65	0.25	0.17	0.44	0.08	0.05	0.01			0.80	0.61
2014_TRIG	937	MC	01	1	841	0.51	0.02		0.55	0.29	0.07	0.06			0.55	0.40
2014_TRIG	937	MC	02	1	841	0.51	0.03		0.18	0.27	0.19	0.33			0.18	0.30
2014_TRIG	937	MC	03	1	841	0.51	0.04		0.08	0.15	0.23	0.51			0.51	0.39
2014_TRIG	937	MC	04	1	841	0.51	0.04		0.25	0.27	0.22	0.22			0.22	0.26
2014_TRIG	937	MC	05	1	841	0.51	0.04		0.22	0.31	0.23	0.19			0.31	0.29
2014_TRIG	937	MC	06	1	841	0.51	0.06		0.24	0.28	0.31	0.11			0.31	0.31
2014_TRIG	937	MC	07	1	841	0.51	0.04		0.15	0.51	0.11	0.19			0.51	0.31
2014_TRIG	937	CR	08	2	841	0.51	0.09	0.40	0.28	0.23					0.74	0.55
2014_TRIG	937	CR	09	6	841	0.51	0.07	0.53	0.07	0.16	0.04	0.05	0.03	0.05	1.13	0.77
2014_TRIG	937	CR	10	2	841	0.51	0.33	0.56	0.09	0.02					0.12	0.32
2014_TRIG	937	CR	11	2	841	0.51	0.15	0.57	0.16	0.12					0.40	0.49
2014_TRIG	938	MC	01	1	832	0.64	0.03		0.23	0.14	0.31	0.28			0.28	0.33
2014_TRIG	938	MC	02	1	832	0.64	0.03		0.10	0.64	0.12	0.11			0.64	0.44
2014_TRIG	938	MC	03	1	832	0.64	0.02		0.02	0.03	0.27	0.65			0.65	0.30
2014_TRIG	938	MC	04	1	832	0.64	0.04		0.14	0.54	0.13	0.15			0.54	0.35
2014_TRIG	938	MC	05	1	832	0.64	0.04		0.16	0.17	0.22	0.41			0.41	0.41
2014_TRIG	938	MC	06	1	832	0.64	0.03		0.10	0.16	0.12	0.59			0.59	0.51
2014_TRIG	938	MC	07	1	832	0.64	0.03		0.12	0.30	0.37	0.17			0.37	0.44
2014_TRIG	938	CR	08	2	832	0.64	0.14	0.46	0.15	0.25					0.65	0.62
2014_TRIG	938	CR	09	2	832	0.64	0.22	0.40	0.17	0.22					0.60	0.54

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	938	CR	10	6	832	0.64	0.21	0.54	0.13	0.06	0.01	0.01	0.03	0.01	0.50	0.61
2014_TRIG	938	CR	11	2	832	0.64	0.12	0.15	0.07	0.66					1.39	0.54
2014_TRIG	939	MC	01	1	841	0.62	0.05		0.17	0.41	0.19	0.19			0.41	0.30
2014_TRIG	939	MC	02	1	841	0.62	0.05		0.24	0.45	0.16	0.10			0.45	0.22
2014_TRIG	939	MC	03	1	841	0.62	0.05		0.08	0.07	0.15	0.66			0.66	0.44
2014_TRIG	939	MC	04	1	841	0.62	0.04		0.22	0.12	0.16	0.47			0.47	0.44
2014_TRIG	939	MC	05	1	841	0.62	0.05		0.10	0.16	0.48	0.22			0.48	0.32
2014_TRIG	939	MC	06	1	841	0.62	0.06		0.28	0.34	0.17	0.15			0.17	0.25
2014_TRIG	939	MC	07	1	841	0.62	0.04		0.11	0.17	0.67	0.02			0.67	0.36
2014_TRIG	939	CR	08	2	841	0.62	0.04	0.26	0.17	0.52					1.22	0.56
2014_TRIG	939	CR	09	4	841	0.62	0.08	0.52	0.08	0.10	0.06	0.16			1.09	0.73
2014_TRIG	939	CR	10	4	841	0.62	0.12	0.28	0.24	0.11	0.07	0.19			1.40	0.71
2014_TRIG	939	CR	11	2	841	0.62	0.28	0.50	0.12	0.10					0.32	0.53
2014_TRIG	940	MC	01	1	847	0.54	0.02		0.23	0.48	0.15	0.12			0.48	0.43
2014_TRIG	940	MC	02	1	847	0.54	0.05		0.21	0.20	0.36	0.17			0.36	0.24
2014_TRIG	940	MC	03	1	847	0.54	0.03		0.46	0.23	0.16	0.11			0.46	0.44
2014_TRIG	940	MC	04	1	847	0.54	0.04		0.19	0.20	0.45	0.11			0.45	0.27
2014_TRIG	940	MC	05	1	847	0.54	0.05		0.34	0.25	0.16	0.20			0.34	0.28
2014_TRIG	940	MC	06	1	847	0.54	0.04		0.11	0.33	0.17	0.35			0.11	0.08
2014_TRIG	940	MC	07	1	847	0.54	0.06		0.15	0.19	0.22	0.39			0.39	0.43
2014_TRIG	940	CR	08	2	847	0.54	0.16	0.51	0.17	0.16					0.49	0.55
2014_TRIG	940	CR	09	6	847	0.54	0.12	0.35	0.13	0.10	0.03	0.07	0.12	0.07	1.75	0.83
2014_TRIG	940	CR	10	2	847	0.54	0.15	0.61	0.16	0.08					0.32	0.45
2014_TRIG	940	CR	11	2	847	0.54	0.32	0.51	0.05	0.11					0.28	0.50
2014_TRIG	941	MC	01	1	851	0.67	0.05		0.29	0.41	0.16	0.09			0.41	0.38
2014_TRIG	941	MC	02	1	851	0.67	0.05		0.16	0.24	0.37	0.17			0.37	0.30
2014_TRIG	941	MC	03	1	851	0.67	0.03		0.21	0.49	0.16	0.11			0.49	0.38
2014_TRIG	941	MC	04	1	851	0.67	0.04		0.04	0.22	0.08	0.62			0.62	0.35

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	941	MC	05	1	851	0.67	0.03		0.10	0.51	0.30	0.05			0.51	0.47
2014_TRIG	941	MC	06	1	851	0.67	0.04		0.18	0.62	0.08	0.09			0.62	0.40
2014_TRIG	941	MC	07	1	851	0.67	0.06		0.25	0.42	0.16	0.11			0.42	0.45
2014_TRIG	941	CR	08	4	851	0.67	0.24	0.56	0.06	0.07	0.02	0.05			0.44	0.68
2014_TRIG	941	CR	09	4	851	0.67	0.08	0.47	0.13	0.12	0.10	0.10			1.06	0.71
2014_TRIG	941	CR	10	2	851	0.67	0.14	0.44	0.12	0.31					0.73	0.66
2014_TRIG	941	CR	11	2	851	0.67	0.17	0.53	0.17	0.14					0.44	0.44
2014_TRIG	942	MC	01	1	839	0.64	0.05		0.19	0.18	0.27	0.31			0.31	0.40
2014_TRIG	942	MC	02	1	839	0.64	0.03		0.16	0.25	0.44	0.12			0.44	0.37
2014_TRIG	942	MC	03	1	839	0.64	0.03		0.13	0.09	0.21	0.54			0.54	0.46
2014_TRIG	942	MC	04	1	839	0.64	0.06		0.36	0.35	0.14	0.08			0.36	0.45
2014_TRIG	942	MC	05	1	839	0.64	0.05		0.07	0.15	0.15	0.59			0.59	0.39
2014_TRIG	942	MC	06	1	839	0.64	0.04		0.16	0.12	0.27	0.40			0.40	0.43
2014_TRIG	942	MC	07	1	839	0.64	0.07		0.12	0.23	0.54	0.05			0.23	0.31
2014_TRIG	942	CR	08	2	839	0.64	0.08	0.58	0.10	0.24					0.58	0.56
2014_TRIG	942	CR	09	4	839	0.64	0.14	0.65	0.05	0.07	0.04	0.05			0.51	0.70
2014_TRIG	942	CR	10	2	839	0.64	0.17	0.54	0.13	0.16					0.45	0.60
2014_TRIG	942	CR	11	4	839	0.64	0.32	0.65	0.01	0.01	0.00	0.00			0.06	0.32
2014_TRIG	943	MC	01	1	839	0.68	0.03		0.09	0.58	0.11	0.19			0.58	0.46
2014_TRIG	943	MC	02	1	839	0.68	0.03		0.44	0.14	0.35	0.04			0.35	0.32
2014_TRIG	943	MC	03	1	839	0.68	0.03		0.10	0.59	0.16	0.12			0.59	0.37
2014_TRIG	943	MC	04	1	839	0.68	0.04		0.37	0.15	0.34	0.09			0.37	0.47
2014_TRIG	943	MC	05	1	839	0.68	0.03		0.12	0.13	0.11	0.60			0.60	0.48
2014_TRIG	943	MC	06	1	839	0.68	0.04		0.33	0.13	0.39	0.11			0.39	0.37
2014_TRIG	943	MC	07	1	839	0.68	0.03		0.06	0.75	0.12	0.03			0.75	0.32
2014_TRIG	943	CR	08	2	839	0.68	0.20	0.60	0.12	0.08					0.28	0.56
2014_TRIG	943	CR	09	2	839	0.68	0.09	0.68	0.10	0.13					0.35	0.61
2014_TRIG	943	CR	10	2	839	0.68	0.16	0.56	0.13	0.14					0.42	0.60

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	943	CR	11	4	839	0.68	0.09	0.41	0.35	0.05	0.05	0.05			0.80	0.69
2014_TRIG	944	MC	01	1	827	0.68	0.02		0.59	0.19	0.13	0.07			0.59	0.42
2014_TRIG	944	MC	02	1	827	0.68	0.04		0.25	0.25	0.31	0.15			0.31	0.29
2014_TRIG	944	MC	03	1	827	0.68	0.04		0.19	0.29	0.13	0.35			0.35	0.32
2014_TRIG	944	MC	04	1	827	0.68	0.02		0.06	0.57	0.17	0.18			0.57	0.47
2014_TRIG	944	MC	05	1	827	0.68	0.04		0.23	0.15	0.40	0.18			0.40	0.34
2014_TRIG	944	MC	06	1	827	0.68	0.04		0.11	0.18	0.21	0.46			0.46	0.49
2014_TRIG	944	MC	07	1	827	0.68	0.04		0.10	0.30	0.47	0.10			0.30	0.39
2014_TRIG	944	CR	08	2	827	0.68	0.03	0.53	0.27	0.17					0.60	0.57
2014_TRIG	944	CR	09	2	827	0.68	0.14	0.44	0.19	0.23					0.65	0.63
2014_TRIG	944	CR	10	4	827	0.68	0.18	0.49	0.11	0.05	0.09	0.07			0.78	0.69
2014_TRIG	944	CR	11	4	827	0.68	0.12	0.26	0.41	0.07	0.05	0.09			1.05	0.68
2014_TRIG	945	MC	01	1	834	0.65	0.03		0.05	0.31	0.51	0.09			0.51	0.45
2014_TRIG	945	MC	02	1	834	0.65	0.07		0.23	0.25	0.26	0.19			0.19	0.19
2014_TRIG	945	MC	03	1	834	0.65	0.05		0.30	0.32	0.19	0.14			0.32	0.27
2014_TRIG	945	MC	04	1	834	0.65	0.05		0.24	0.25	0.12	0.34			0.34	0.31
2014_TRIG	945	MC	05	1	834	0.65	0.03		0.15	0.11	0.59	0.13			0.59	0.41
2014_TRIG	945	MC	06	1	834	0.65	0.04		0.11	0.23	0.15	0.47			0.47	0.43
2014_TRIG	945	MC	07	1	834	0.65	0.03		0.18	0.66	0.07	0.06			0.66	0.37
2014_TRIG	945	CR	08	4	834	0.65	0.13	0.60	0.07	0.06	0.05	0.10			0.71	0.70
2014_TRIG	945	CR	09	2	834	0.65	0.18	0.26	0.16	0.40					0.97	0.57
2014_TRIG	945	CR	10	2	834	0.65	0.13	0.54	0.12	0.20					0.52	0.61
2014_TRIG	945	CR	11	4	834	0.65	0.20	0.39	0.12	0.13	0.15	0.01			0.87	0.67
2014_TRIG	946	MC	01	1	822	0.60	0.02		0.33	0.41	0.18	0.06			0.41	0.32
2014_TRIG	946	MC	02	1	822	0.60	0.02		0.55	0.18	0.15	0.10			0.55	0.41
2014_TRIG	946	MC	03	1	822	0.60	0.04		0.17	0.15	0.45	0.19			0.45	0.34
2014_TRIG	946	MC	04	1	822	0.60	0.02		0.20	0.20	0.11	0.46			0.46	0.42
2014_TRIG	946	MC	05	1	822	0.60	0.04		0.19	0.14	0.51	0.11			0.19	0.28

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	946	MC	06	1	822	0.60	0.02		0.10	0.41	0.39	0.08			0.39	0.27
2014_TRIG	946	MC	07	1	822	0.60	0.04		0.12	0.24	0.33	0.28			0.33	0.36
2014_TRIG	946	CR	08	2	822	0.60	0.20	0.54	0.20	0.06					0.32	0.51
2014_TRIG	946	CR	09	4	822	0.60	0.07	0.68	0.09	0.06	0.04	0.07			0.60	0.70
2014_TRIG	946	CR	10	2	822	0.60	0.18	0.43	0.10	0.29					0.68	0.51
2014_TRIG	946	CR	11	4	822	0.60	0.21	0.63	0.04	0.03	0.03	0.06			0.42	0.62
2014_TRIG	947	MC	01	1	838	0.66	0.02		0.66	0.24	0.07	0.02			0.66	0.35
2014_TRIG	947	MC	02	1	838	0.66	0.03		0.19	0.40	0.22	0.15			0.40	0.45
2014_TRIG	947	MC	03	1	838	0.66	0.01		0.05	0.03	0.76	0.14			0.76	0.44
2014_TRIG	947	MC	04	1	838	0.66	0.04		0.52	0.16	0.21	0.07			0.52	0.44
2014_TRIG	947	MC	05	1	838	0.66	0.02		0.05	0.64	0.20	0.09			0.64	0.30
2014_TRIG	947	MC	06	1	838	0.66	0.04		0.11	0.39	0.23	0.23			0.39	0.49
2014_TRIG	947	MC	07	1	838	0.66	0.04		0.68	0.12	0.10	0.05			0.68	0.42
2014_TRIG	947	CR	08	2	838	0.66	0.05	0.64	0.15	0.16					0.47	0.62
2014_TRIG	947	CR	09	2	838	0.66	0.13	0.37	0.12	0.38					0.89	0.64
2014_TRIG	947	CR	10	2	838	0.66	0.32	0.32	0.13	0.23					0.59	0.51
2014_TRIG	947	CR	11	6	838	0.66	0.20	0.70	0.03	0.03	0.01	0.00	0.01	0.02	0.29	0.57
2014_TRIG	948	MC	01	1	828	0.68	0.02		0.64	0.10	0.13	0.11			0.64	0.43
2014_TRIG	948	MC	02	1	828	0.68	0.06		0.16	0.24	0.40	0.15			0.40	0.12
2014_TRIG	948	MC	03	1	828	0.68	0.03		0.43	0.27	0.08	0.19			0.27	0.36
2014_TRIG	948	MC	04	1	828	0.68	0.02		0.06	0.29	0.49	0.13			0.49	0.50
2014_TRIG	948	MC	05	1	828	0.68	0.03		0.32	0.12	0.18	0.36			0.36	0.43
2014_TRIG	948	MC	06	1	828	0.68	0.04		0.10	0.50	0.12	0.24			0.50	0.39
2014_TRIG	948	MC	07	1	828	0.68	0.05		0.32	0.45	0.11	0.08			0.45	0.41
2014_TRIG	948	CR	08	4	828	0.68	0.20	0.35	0.20	0.07	0.06	0.12			0.99	0.70
2014_TRIG	948	CR	09	2	828	0.68	0.10	0.48	0.26	0.15					0.57	0.62
2014_TRIG	948	CR	10	2	828	0.68	0.20	0.39	0.13	0.29					0.70	0.64
2014_TRIG	948	CR	11	4	828	0.68	0.33	0.47	0.02	0.10	0.06	0.02			0.47	0.63

Test	Form	Type	Item	Max	N-Count	Alpha	B	M0	M1	M2	M3	M4	M5	M6	Mean	Point-Biserial
2014_TRIG	949	MC	01	1	833	0.64	0.03		0.26	0.51	0.06	0.15			0.51	0.35
2014_TRIG	949	MC	02	1	833	0.64	0.02		0.76	0.07	0.06	0.09			0.76	0.39
2014_TRIG	949	MC	03	1	833	0.64	0.03		0.05	0.13	0.61	0.18			0.61	0.37
2014_TRIG	949	MC	04	1	833	0.64	0.02		0.36	0.44	0.09	0.08			0.44	0.24
2014_TRIG	949	MC	05	1	833	0.64	0.03		0.45	0.20	0.24	0.08			0.45	0.33
2014_TRIG	949	MC	06	1	833	0.64	0.03		0.19	0.53	0.12	0.13			0.53	0.50
2014_TRIG	949	MC	07	1	833	0.64	0.04		0.15	0.15	0.17	0.50			0.50	0.47
2014_TRIG	949	CR	08	2	833	0.64	0.08	0.34	0.16	0.43					1.01	0.60
2014_TRIG	949	CR	09	2	833	0.64	0.14	0.36	0.13	0.38					0.89	0.62
2014_TRIG	949	CR	10	4	833	0.64	0.13	0.58	0.09	0.10	0.03	0.05			0.60	0.53
2014_TRIG	949	CR	11	4	833	0.64	0.09	0.32	0.17	0.13	0.11	0.18			1.48	0.70
2014_TRIG	950	MC	01	1	828	0.65	0.03		0.55	0.08	0.11	0.22			0.55	0.38
2014_TRIG	950	MC	02	1	828	0.65	0.03		0.04	0.46	0.44	0.03			0.46	0.31
2014_TRIG	950	MC	03	1	828	0.65	0.04		0.36	0.26	0.20	0.14			0.36	0.40
2014_TRIG	950	MC	04	1	828	0.65	0.04		0.04	0.77	0.10	0.05			0.77	0.40
2014_TRIG	950	MC	05	1	828	0.65	0.03		0.48	0.38	0.06	0.06			0.48	0.32
2014_TRIG	950	MC	06	1	828	0.65	0.04		0.14	0.13	0.19	0.50			0.50	0.38
2014_TRIG	950	MC	07	1	828	0.65	0.04		0.16	0.14	0.48	0.19			0.48	0.37
2014_TRIG	950	CR	08	2	828	0.65	0.06	0.64	0.14	0.16					0.46	0.61
2014_TRIG	950	CR	09	6	828	0.65	0.18	0.54	0.04	0.05	0.02	0.06	0.04	0.08	1.07	0.80
2014_TRIG	950	CR	10	2	828	0.65	0.15	0.48	0.14	0.23					0.60	0.61
2014_TRIG	950	CR	11	2	828	0.65	0.16	0.31	0.14	0.40					0.93	0.58

Appendix B: Inter-rater Consistency – Point Differences Between First and Second Reads

The first three columns from the left contain the form ID, item sequence number, and number of score points for each item. The remaining columns contain the percentage of times each possible difference between the first and second raters' scores occurred. Blank cells indicate out-of-range differences (e.g., differences greater than the maximum possible given the point value of that particular item).

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
922	08	2					1%	6%	92%	1%	0%				
922	09	2					0%	13%	80%	7%	1%				
922	10	4			0%	0%	0%	5%	89%	3%	3%	0%	0%		
922	11	4			0%	0%	1%	3%	90%	5%	2%	0%	0%		
923	08	2					0%	7%	87%	6%	0%				
923	09	4			0%	0%	2%	5%	84%	7%	2%	0%	0%		
923	10	4			0%	0%	4%	5%	87%	3%	1%	0%	0%		
923	11	2					0%	8%	82%	10%	1%				
924	08	2					0%	6%	87%	6%	1%				
924	09	4			0%	0%	5%	12%	70%	10%	3%	0%	0%		
924	10	2					0%	5%	90%	5%	0%				
924	11	4			0%	0%	0%	5%	88%	7%	0%	0%	0%		
925	08	4			0%	0%	1%	5%	90%	3%	1%	0%	0%		
925	09	2					1%	5%	88%	5%	1%				
925	10	2					0%	5%	91%	4%	1%				
925	11	4			0%	0%	3%	9%	81%	7%	1%	0%	0%		
926	08	4			0%	0%	1%	4%	93%	3%	0%	0%	0%		
926	09	2					0%	2%	97%	1%	0%				
926	10	4			0%	0%	3%	5%	83%	4%	5%	0%	0%		
926	11	2					3%	12%	75%	11%	0%				
927	08	4			0%	0%	3%	11%	71%	12%	2%	0%	0%		
927	09	4			0%	0%	4%	7%	82%	5%	1%	0%	0%		
927	10	2					1%	8%	85%	7%	0%				
927	11	2					0%	1%	97%	2%	0%				
928	08	2					0%	1%	99%	1%	0%				
928	09	2					1%	4%	89%	6%	0%				
928	10	2					1%	2%	96%	1%	0%				
928	11	6	0%	0%	0%	0%	1%	3%	92%	3%	1%	0%	0%	0%	0%
929	08	2					0%	10%	77%	13%	0%				
929	09	6	0%	0%	0%	0%	3%	0%	93%	3%	1%	0%	0%	0%	0%

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
929	10	2					0%	2%	94%	4%	0%				
929	11	2					0%	9%	85%	6%	0%				
930	08	2					0%	5%	84%	11%	0%				
930	09	2					1%	6%	86%	6%	1%				
930	10	6	0%	0%	0%	0%	2%	4%	84%	9%	1%	0%	0%	0%	0%
930	11	2					0%	3%	92%	5%	0%				
931	08	6	0%	0%	0%	0%	1%	4%	89%	4%	1%	0%	0%	0%	0%
931	09	2					0%	1%	95%	4%	0%				
931	10	2					0%	3%	94%	3%	0%				
931	11	2					0%	3%	95%	1%	1%				
932	08	2					0%	2%	96%	1%	1%				
932	09	2					1%	5%	91%	3%	1%				
932	10	4			0%	0%	1%	3%	93%	3%	0%	0%	0%		
932	11	4			0%	0%	1%	4%	93%	1%	1%	0%	0%		
933	08	2					0%	4%	90%	6%	0%				
933	09	4			0%	0%	4%	11%	66%	10%	9%	0%	0%		
933	10	4			0%	0%	0%	6%	91%	3%	0%	0%	0%		
933	11	2					0%	4%	94%	2%	0%				
934	08	2					0%	2%	95%	3%	0%				
934	09	4			0%	0%	3%	8%	76%	7%	6%	0%	0%		
934	10	2					0%	3%	94%	3%	0%				
934	11	4			0%	0%	1%	6%	85%	5%	2%	0%	0%		
935	08	2					0%	13%	74%	14%	0%				
935	09	2					0%	5%	89%	6%	0%				
935	11	6	0%	0%	0%	0%	1%	6%	80%	12%	1%	0%	0%	0%	0%
936	08	4			0%	0%	7%	7%	73%	9%	5%	0%	0%		
936	09	2					1%	13%	76%	11%	0%				
936	10	2					0%	7%	86%	7%	0%				
936	11	4			0%	0%	0%	5%	93%	2%	1%	0%	0%		
937	08	2					0%	8%	80%	11%	0%				
937	09	6	0%	0%	0%	0%	2%	5%	89%	3%	1%	0%	0%	0%	0%
937	10	2					1%	1%	97%	1%	0%				
937	11	2					0%	8%	83%	9%	0%				
938	08	2					0%	5%	92%	3%	0%				
938	09	2					0%	5%	89%	6%	0%				
938	10	6	0%	0%	0%	0%	3%	9%	81%	6%	2%	0%	0%	0%	0%
938	11	2					1%	3%	92%	4%	0%				
939	08	2					0%	3%	94%	3%	0%				
939	09	4			0%	0%	2%	10%	72%	11%	5%	0%	0%		

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
939	10	4			0%	0%	0%	5%	90%	5%	1%	0%	0%		
939	11	2					0%	9%	80%	11%	0%				
940	08	2					0%	11%	83%	5%	1%				
940	09	6	0%	0%	0%	0%	5%	11%	72%	9%	4%	0%	0%	0%	0%
940	10	2					1%	8%	81%	10%	1%				
940	11	2					0%	2%	93%	3%	2%				
941	08	4			0%	0%	1%	2%	95%	1%	1%	0%	0%		
941	09	4			0%	0%	1%	6%	81%	7%	4%	0%	0%		
941	10	2					2%	1%	90%	6%	0%				
941	11	2					0%	7%	89%	4%	0%				
942	08	2					1%	8%	85%	5%	0%				
942	09	4			0%	0%	2%	3%	86%	6%	2%	0%	0%		
942	10	2					0%	6%	87%	6%	1%				
942	11	4			0%	0%	0%	0%	99%	1%	0%	0%	0%		
943	08	2					1%	4%	93%	3%	0%				
943	09	2					0%	5%	91%	5%	0%				
943	10	2					0%	8%	84%	8%	0%				
943	11	4			0%	0%	1%	5%	86%	6%	1%	0%	0%		
944	08	2					1%	15%	72%	11%	2%				
944	09	2					1%	8%	85%	7%	0%				
944	10	4			0%	0%	3%	6%	84%	4%	2%	0%	0%		
944	11	4			0%	0%	1%	10%	78%	12%	0%	0%	0%		
945	08	4			0%	0%	4%	6%	80%	8%	2%	0%	0%		
945	09	2					0%	7%	87%	6%	0%				
945	10	2					0%	4%	91%	5%	0%				
945	11	4			0%	0%	1%	6%	79%	12%	2%	0%	0%		
946	08	2					0%	3%	95%	2%	0%				
946	09	4			0%	0%	2%	3%	87%	4%	3%	0%	0%		
946	10	2					1%	6%	90%	3%	0%				
946	11	4			0%	0%	0%	3%	93%	3%	1%	0%	0%		
947	08	2					0%	3%	90%	6%	1%				
947	09	2					0%	3%	91%	6%	0%				
947	10	2					0%	3%	92%	4%	0%				
947	11	6	0%	0%	0%	0%	0%	3%	94%	1%	2%	0%	0%	0%	0%
948	08	4			0%	0%	1%	5%	87%	7%	0%	0%	0%		
948	09	2					0%	7%	83%	10%	0%				
948	10	2					1%	5%	90%	4%	0%				
948	11	4			0%	0%	1%	1%	97%	1%	0%	0%	0%		
949	08	2					1%	4%	86%	9%	0%				

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
949	09	2					0%	7%	91%	2%	0%				
949	10	4			0%	0%	1%	8%	79%	10%	2%	0%	0%		
949	11	4			0%	0%	4%	14%	66%	13%	3%	0%	0%		
950	08	2					0%	3%	91%	6%	1%				
950	09	6	0%	0%	0%	0%	3%	5%	88%	3%	1%	0%	0%	0%	0%
950	10	2					1%	9%	79%	9%	2%				
950	11	2					0%	6%	87%	5%	2%				
922	08	2					1%	6%	92%	1%	0%				
922	09	2					0%	13%	80%	7%	1%				
922	10	4			0%	0%	0%	5%	89%	3%	3%	0%	0%		
922	11	4			0%	0%	1%	3%	90%	5%	2%	0%	0%		
923	08	2					0%	7%	87%	6%	0%				
923	09	4			0%	0%	2%	5%	84%	7%	2%	0%	0%		
923	10	4			0%	0%	4%	5%	87%	3%	1%	0%	0%		
923	11	2					0%	8%	82%	10%	1%				
924	08	2					0%	6%	87%	6%	1%				
924	09	4			0%	0%	5%	12%	70%	10%	3%	0%	0%		
924	10	2					0%	5%	90%	5%	0%				
924	11	4			0%	0%	0%	5%	88%	7%	0%	0%	0%		
925	08	4			0%	0%	1%	5%	90%	3%	1%	0%	0%		
925	09	2					1%	5%	88%	5%	1%				
925	10	2					0%	5%	91%	4%	1%				
925	11	4			0%	0%	3%	9%	81%	7%	1%	0%	0%		
926	08	4			0%	0%	1%	4%	93%	3%	0%	0%	0%		
926	09	2					0%	2%	97%	1%	0%				
926	10	4			0%	0%	3%	5%	83%	4%	5%	0%	0%		
926	11	2					3%	12%	75%	11%	0%				
927	08	4			0%	0%	3%	11%	71%	12%	2%	0%	0%		
927	09	4			0%	0%	4%	7%	82%	5%	1%	0%	0%		
927	10	2					1%	8%	85%	7%	0%				
927	11	2					0%	1%	97%	2%	0%				
928	08	2					0%	1%	99%	1%	0%				
928	09	2					1%	4%	89%	6%	0%				
928	10	2					1%	2%	96%	1%	0%				
928	11	6	0%	0%	0%	0%	1%	3%	92%	3%	1%	0%	0%	0%	0%
929	08	2					0%	10%	77%	13%	0%				
929	09	6	0%	0%	0%	0%	3%	0%	93%	3%	1%	0%	0%	0%	0%
929	10	2					0%	2%	94%	4%	0%				
929	11	2					0%	9%	85%	6%	0%				

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
930	08	2					0%	5%	84%	11%	0%				
930	09	2					1%	6%	86%	6%	1%				
930	10	6	0%	0%	0%	0%	2%	4%	84%	9%	1%	0%	0%	0%	0%
930	11	2					0%	3%	92%	5%	0%				
931	08	6	0%	0%	0%	0%	1%	4%	89%	4%	1%	0%	0%	0%	0%
931	09	2					0%	1%	95%	4%	0%				
931	10	2					0%	3%	94%	3%	0%				
931	11	2					0%	3%	95%	1%	1%				
932	08	2					0%	2%	96%	1%	1%				
932	09	2					1%	5%	91%	3%	1%				
932	10	4			0%	0%	1%	3%	93%	3%	0%	0%	0%		
932	11	4			0%	0%	1%	4%	93%	1%	1%	0%	0%		
933	08	2					0%	4%	90%	6%	0%				
933	09	4			0%	0%	4%	11%	66%	10%	9%	0%	0%		
933	10	4			0%	0%	0%	6%	91%	3%	0%	0%	0%		
933	11	2					0%	4%	94%	2%	0%				
934	08	2					0%	2%	95%	3%	0%				
934	09	4			0%	0%	3%	8%	76%	7%	6%	0%	0%		
934	10	2					0%	3%	94%	3%	0%				
934	11	4			0%	0%	1%	6%	85%	5%	2%	0%	0%		
935	08	2					0%	13%	74%	14%	0%				
935	09	2					0%	5%	89%	6%	0%				
935	11	6	0%	0%	0%	0%	1%	6%	80%	12%	1%	0%	0%	0%	0%
936	08	4			0%	0%	7%	7%	73%	9%	5%	0%	0%		
936	09	2					1%	13%	76%	11%	0%				
936	10	2					0%	7%	86%	7%	0%				
936	11	4			0%	0%	0%	5%	93%	2%	1%	0%	0%		
937	08	2					0%	8%	80%	11%	0%				
937	09	6	0%	0%	0%	0%	2%	5%	89%	3%	1%	0%	0%	0%	0%
937	10	2					1%	1%	97%	1%	0%				
937	11	2					0%	8%	83%	9%	0%				
938	08	2					0%	5%	92%	3%	0%				
938	09	2					0%	5%	89%	6%	0%				
938	10	6	0%	0%	0%	0%	3%	9%	81%	6%	2%	0%	0%	0%	0%
938	11	2					1%	3%	92%	4%	0%				
939	08	2					0%	3%	94%	3%	0%				
939	09	4			0%	0%	2%	10%	72%	11%	5%	0%	0%		
939	10	4			0%	0%	0%	5%	90%	5%	1%	0%	0%		
939	11	2					0%	9%	80%	11%	0%				

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
940	08	2					0%	11%	83%	5%	1%				
940	09	6	0%	0%	0%	0%	5%	11%	72%	9%	4%	0%	0%	0%	0%
940	10	2					1%	8%	81%	10%	1%				
940	11	2					0%	2%	93%	3%	2%				
941	08	4			0%	0%	1%	2%	95%	1%	1%	0%	0%		
941	09	4			0%	0%	1%	6%	81%	7%	4%	0%	0%		
941	10	2					2%	1%	90%	6%	0%				
941	11	2					0%	7%	89%	4%	0%				
942	08	2					1%	8%	85%	5%	0%				
942	09	4			0%	0%	2%	3%	86%	6%	2%	0%	0%		
942	10	2					0%	6%	87%	6%	1%				
942	11	4			0%	0%	0%	0%	99%	1%	0%	0%	0%		
943	08	2					1%	4%	93%	3%	0%				
943	09	2					0%	5%	91%	5%	0%				
943	10	2					0%	8%	84%	8%	0%				
943	11	4			0%	0%	1%	5%	86%	6%	1%	0%	0%		
944	08	2					1%	15%	72%	11%	2%				
944	09	2					1%	8%	85%	7%	0%				
944	10	4			0%	0%	3%	6%	84%	4%	2%	0%	0%		
944	11	4			0%	0%	1%	10%	78%	12%	0%	0%	0%		
945	08	4			0%	0%	4%	6%	80%	8%	2%	0%	0%		
945	09	2					0%	7%	87%	6%	0%				
945	10	2					0%	4%	91%	5%	0%				
945	11	4			0%	0%	1%	6%	79%	12%	2%	0%	0%		
946	08	2					0%	3%	95%	2%	0%				
946	09	4			0%	0%	2%	3%	87%	4%	3%	0%	0%		
946	10	2					1%	6%	90%	3%	0%				
946	11	4			0%	0%	0%	3%	93%	3%	1%	0%	0%		
947	08	2					0%	3%	90%	6%	1%				
947	09	2					0%	3%	91%	6%	0%				
947	10	2					0%	3%	92%	4%	0%				
947	11	6	0%	0%	0%	0%	0%	3%	94%	1%	2%	0%	0%	0%	0%
948	08	4			0%	0%	1%	5%	87%	7%	0%	0%	0%		
948	09	2					0%	7%	83%	10%	0%				
948	10	2					1%	5%	90%	4%	0%				
948	11	4			0%	0%	1%	1%	97%	1%	0%	0%	0%		
949	08	2					1%	4%	86%	9%	0%				
949	09	2					0%	7%	91%	2%	0%				
949	10	4			0%	0%	1%	8%	79%	10%	2%	0%	0%		

Form	Item	Score Pts	Difference (First Read Minus Second Read)												
			-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
949	11	4			0%	0%	4%	14%	66%	13%	3%	0%	0%		
950	08	2					0%	3%	91%	6%	1%				
950	09	6	0%	0%	0%	0%	3%	5%	88%	3%	1%	0%	0%	0%	0%
950	10	2					1%	9%	79%	9%	2%				
950	11	2					0%	6%	87%	5%	2%				

Appendix C: Additional Measures of Inter-rater Reliability and Agreement

The first four columns from the left contain the form ID, item sequence number, number of score points, and the total count of items receiving a first and second read. In the fifth column, the percent of exact matches between the first and second scores is provided. The following column (“Adj.”) is the percentage first and second scores with a difference of -1 or 1. “Total” is the sum of Exact and Adjacent matches (e.g., the two prior columns).

Form	Item	Score Points	Total N-Count	Agreement (%)			Raw Score Mean		Raw Score Standard Deviation		Intraclass Corr.	Weighted Kappa
				Exact	Adj.	Total	First Read	Second Read	First Read	Second Read		
922	08	2	145	92.4%	6.9%	99.3%	0.6	0.7	0.87	0.88	0.94	0.90
922	09	2	151	80.1%	19.2%	99.3%	0.4	0.5	0.58	0.58	0.68	0.64
922	10	4	151	89.4%	7.9%	97.4%	0.5	0.5	1.24	1.19	0.94	0.85
922	11	4	145	89.7%	7.6%	97.2%	0.6	0.5	1.24	1.21	0.94	0.86
923	08	2	149	87.2%	12.8%	100.0%	0.7	0.7	0.90	0.90	0.92	0.86
923	09	4	148	83.8%	12.2%	95.9%	1.6	1.6	1.81	1.82	0.96	0.89
923	10	4	151	86.8%	7.9%	94.7%	0.4	0.5	1.08	1.14	0.88	0.77
923	11	2	146	81.5%	17.1%	98.6%	0.5	0.5	0.75	0.72	0.79	0.71
924	08	2	150	87.3%	12.0%	99.3%	0.8	0.8	0.93	0.93	0.91	0.86
924	09	4	149	69.8%	22.1%	91.9%	1.2	1.3	1.37	1.37	0.85	0.73
924	10	2	148	89.9%	10.1%	100.0%	0.3	0.3	0.52	0.55	0.82	0.77
924	11	4	152	88.2%	11.8%	100.0%	0.5	0.5	1.11	1.09	0.95	0.86
925	08	4	154	90.3%	7.8%	98.1%	1.5	1.5	1.73	1.72	0.97	0.94
925	09	2	146	87.7%	10.3%	97.9%	0.3	0.3	0.63	0.66	0.78	0.71
925	10	2	148	90.5%	8.8%	99.3%	0.4	0.4	0.72	0.72	0.89	0.84
925	11	4	148	81.1%	15.5%	96.6%	0.8	0.8	1.22	1.26	0.91	0.81
926	08	4	148	92.6%	6.8%	99.3%	0.8	0.8	1.32	1.33	0.97	0.93
926	09	2	150	97.3%	2.7%	100.0%	1.4	1.5	0.88	0.86	0.98	0.97
926	10	4	144	83.3%	9.0%	92.4%	0.5	0.5	1.10	1.02	0.82	0.71
926	11	2	142	74.6%	22.5%	97.2%	0.5	0.6	0.71	0.78	0.70	0.62

Form	Item	Score Points	Total N-Count	Agreement (%)			Raw Score Mean		Raw Score Standard Deviation		Intraclass Corr.	Weighted Kappa
				Exact	Adj.	Total	First Read	Second Read	First Read	Second Read		
927	08	4	149	71.1%	23.5%	94.6%	1.2	1.2	1.24	1.24	0.85	0.74
927	09	4	148	82.4%	12.8%	95.3%	1.2	1.3	1.44	1.46	0.92	0.85
927	10	2	145	84.8%	14.5%	99.3%	1.0	1.0	0.91	0.93	0.90	0.84
927	11	2	150	96.7%	3.3%	100.0%	0.4	0.4	0.71	0.72	0.97	0.95
928	08	2	149	98.7%	1.3%	100.0%	0.1	0.1	0.43	0.43	0.96	0.94
928	09	2	151	89.4%	9.9%	99.3%	0.4	0.4	0.68	0.69	0.87	0.82
928	10	2	147	95.9%	3.4%	99.3%	0.7	0.8	0.94	0.94	0.97	0.95
928	11	6	153	92.2%	5.9%	98.0%	0.7	0.6	1.53	1.53	0.97	0.91
929	08	2	149	77.2%	22.8%	100.0%	0.5	0.4	0.70	0.70	0.77	0.66
929	09	6	148	93.2%	2.7%	95.9%	0.4	0.4	1.31	1.33	0.95	0.85
929	10	2	152	94.1%	5.9%	100.0%	1.4	1.4	0.87	0.90	0.96	0.93
929	11	2	151	85.4%	14.6%	100.0%	0.8	0.8	0.94	0.91	0.92	0.85
930	08	2	151	84.1%	15.9%	100.0%	0.5	0.4	0.70	0.70	0.84	0.76
930	09	2	152	86.2%	11.8%	98.0%	0.9	0.9	0.94	0.92	0.89	0.84
930	10	6	149	83.9%	12.8%	96.6%	0.6	0.6	1.37	1.34	0.93	0.81
930	11	2	150	92.0%	8.0%	100.0%	0.2	0.2	0.51	0.48	0.84	0.74
931	08	6	148	89.2%	8.1%	97.3%	0.8	0.8	1.73	1.73	0.97	0.90
931	09	2	151	95.4%	4.6%	100.0%	0.5	0.4	0.78	0.77	0.96	0.93
931	10	2	153	94.1%	5.9%	100.0%	0.1	0.1	0.40	0.41	0.82	0.74
931	11	2	150	94.7%	4.7%	99.3%	0.2	0.2	0.57	0.57	0.89	0.84
932	08	2	152	96.1%	3.3%	99.3%	0.2	0.2	0.61	0.60	0.92	0.89
932	09	2	150	90.7%	8.0%	98.7%	0.9	0.9	0.94	0.93	0.92	0.89
932	10	4	148	93.2%	5.4%	98.6%	0.7	0.8	1.14	1.16	0.96	0.92
932	11	4	152	92.8%	5.3%	98.0%	0.4	0.4	0.94	0.96	0.93	0.86
933	08	2	153	90.2%	9.8%	100.0%	0.5	0.5	0.80	0.81	0.92	0.87
933	09	4	156	66.0%	21.2%	87.2%	1.1	1.0	1.38	1.34	0.80	0.66

Form	Item	Score Points	Total N-Count	Agreement (%)			Raw Score Mean		Raw Score Standard Deviation		Intraclass Corr.	Weighted Kappa
				Exact	Adj.	Total	First Read	Second Read	First Read	Second Read		
933	10	4	153	90.8%	9.2%	100.0%	0.5	0.6	0.77	0.79	0.92	0.88
933	11	2	150	94.0%	6.0%	100.0%	0.5	0.5	0.82	0.83	0.96	0.92
934	08	2	146	94.5%	5.5%	100.0%	0.2	0.1	0.44	0.45	0.86	0.79
934	09	4	148	75.7%	15.5%	91.2%	0.8	0.7	1.09	1.01	0.77	0.68
934	10	2	156	94.2%	5.8%	100.0%	0.7	0.8	0.91	0.92	0.97	0.94
934	11	4	150	85.3%	11.3%	96.7%	0.6	0.6	1.07	1.03	0.89	0.80
935	08	2	148	73.6%	26.4%	100.0%	0.6	0.6	0.69	0.71	0.73	0.63
935	09	2	145	89.0%	11.0%	100.0%	0.5	0.5	0.78	0.78	0.91	0.85
935	11	6	146	80.1%	17.8%	97.9%	1.1	1.0	1.63	1.67	0.95	0.86
936	08	4	152	73.0%	15.8%	88.8%	1.0	1.0	1.35	1.40	0.84	0.72
936	09	2	147	75.5%	23.8%	99.3%	0.6	0.7	0.75	0.77	0.77	0.68
936	10	2	147	86.4%	13.6%	100.0%	0.6	0.6	0.84	0.83	0.90	0.83
936	11	4	151	92.7%	6.6%	99.3%	0.8	0.8	0.86	0.85	0.94	0.91
937	08	2	148	80.4%	19.6%	100.0%	0.7	0.7	0.80	0.82	0.85	0.77
937	09	6	149	88.6%	8.7%	97.3%	1.2	1.2	1.86	1.86	0.97	0.92
937	10	2	146	97.3%	2.1%	99.3%	0.1	0.1	0.34	0.37	0.81	0.84
937	11	2	144	83.3%	16.7%	100.0%	0.4	0.4	0.66	0.66	0.81	0.72
938	08	2	148	91.9%	8.1%	100.0%	0.6	0.7	0.84	0.85	0.94	0.90
938	09	2	145	89.0%	11.0%	100.0%	0.6	0.6	0.81	0.81	0.92	0.86
938	10	6	144	80.6%	14.6%	95.1%	0.4	0.4	1.02	1.07	0.84	0.66
938	11	2	144	91.7%	7.6%	99.3%	1.5	1.5	0.84	0.84	0.93	0.88
939	08	2	146	93.8%	6.2%	100.0%	1.1	1.1	0.86	0.87	0.96	0.93
939	09	4	148	71.6%	20.9%	92.6%	1.2	1.2	1.57	1.56	0.90	0.78
939	10	4	148	89.9%	9.5%	99.3%	1.3	1.3	1.54	1.55	0.97	0.93
939	11	2	144	79.9%	20.1%	100.0%	0.3	0.3	0.60	0.57	0.70	0.56
940	08	2	150	83.3%	16.0%	99.3%	0.4	0.5	0.73	0.77	0.83	0.75

Form	Item	Score Points	Total N-Count	Agreement (%)			Raw Score Mean		Raw Score Standard Deviation		Intraclass Corr.	Weighted Kappa
				Exact	Adj.	Total	First Read	Second Read	First Read	Second Read		
940	09	6	149	71.8%	19.5%	91.3%	1.7	1.8	2.05	2.08	0.94	0.83
940	10	2	144	80.6%	18.1%	98.6%	0.4	0.4	0.71	0.68	0.76	0.67
940	11	2	143	93.0%	4.9%	97.9%	0.4	0.3	0.74	0.69	0.87	0.84
941	08	4	150	95.3%	3.3%	98.7%	0.3	0.3	0.93	0.93	0.95	0.90
941	09	4	148	81.1%	13.5%	94.6%	1.0	0.9	1.35	1.37	0.91	0.82
941	10	2	146	90.4%	7.5%	97.9%	0.8	0.8	0.92	0.93	0.91	0.88
941	11	2	147	89.1%	10.9%	100.0%	0.4	0.4	0.66	0.67	0.88	0.81
942	08	2	148	85.1%	13.5%	98.6%	0.7	0.7	0.89	0.91	0.88	0.82
942	09	4	146	86.3%	9.6%	95.9%	0.5	0.5	1.13	1.11	0.90	0.79
942	10	2	143	87.4%	11.9%	99.3%	0.6	0.6	0.82	0.82	0.89	0.84
942	11	4	149	98.7%	1.3%	100.0%	0.1	0.1	0.39	0.33	0.95	0.90
943	08	2	149	92.6%	6.7%	99.3%	0.3	0.3	0.65	0.68	0.89	0.85
943	09	2	149	90.6%	9.4%	100.0%	0.3	0.3	0.67	0.67	0.89	0.82
943	10	2	145	84.1%	15.9%	100.0%	0.4	0.4	0.71	0.70	0.84	0.75
943	11	4	146	85.6%	11.6%	97.3%	0.8	0.8	1.08	1.10	0.91	0.84
944	08	2	150	72.0%	25.3%	97.3%	0.6	0.6	0.73	0.76	0.67	0.59
944	09	2	146	84.9%	14.4%	99.3%	0.6	0.6	0.78	0.79	0.86	0.80
944	10	4	143	83.9%	10.5%	94.4%	0.7	0.7	1.26	1.35	0.90	0.81
944	11	4	147	77.6%	21.1%	98.6%	1.0	1.0	1.06	1.07	0.88	0.77
945	08	4	146	80.1%	13.7%	93.8%	0.4	0.5	0.97	1.02	0.81	0.65
945	09	2	142	86.6%	13.4%	100.0%	1.1	1.1	0.92	0.89	0.92	0.86
945	10	2	149	91.3%	8.7%	100.0%	0.6	0.6	0.79	0.81	0.93	0.89
945	11	4	147	78.9%	17.7%	96.6%	1.0	1.0	1.31	1.25	0.90	0.81
946	08	2	146	94.5%	5.5%	100.0%	0.3	0.3	0.51	0.53	0.90	0.88
946	09	4	144	86.8%	7.6%	94.4%	0.4	0.4	0.97	0.95	0.84	0.74
946	10	2	142	90.1%	8.5%	98.6%	0.6	0.7	0.88	0.89	0.91	0.87

Form	Item	Score Points	Total N-Count	Agreement (%)			Raw Score Mean		Raw Score Standard Deviation		Intraclass Corr.	Weighted Kappa
				Exact	Adj.	Total	First Read	Second Read	First Read	Second Read		
946	11	4	145	93.1%	5.5%	98.6%	0.3	0.3	0.99	0.97	0.94	0.85
947	08	2	150	90.0%	9.3%	99.3%	0.5	0.5	0.79	0.77	0.90	0.85
947	09	2	146	91.1%	8.9%	100.0%	0.9	0.9	0.93	0.93	0.95	0.91
947	10	2	144	92.4%	7.6%	100.0%	0.6	0.6	0.85	0.84	0.95	0.91
947	11	6	148	93.9%	4.1%	98.0%	0.3	0.3	1.07	1.02	0.94	0.85
948	08	4	149	86.6%	12.8%	99.3%	1.0	1.0	1.36	1.39	0.96	0.90
948	09	2	149	83.2%	16.8%	100.0%	0.5	0.5	0.71	0.71	0.83	0.76
948	10	2	144	90.3%	9.0%	99.3%	0.7	0.7	0.88	0.89	0.92	0.88
948	11	4	149	96.6%	2.0%	98.7%	0.5	0.6	1.09	1.12	0.97	0.95
949	08	2	150	86.0%	13.3%	99.3%	0.9	0.9	0.93	0.93	0.91	0.85
949	09	2	148	90.5%	9.5%	100.0%	0.8	0.9	0.91	0.89	0.94	0.90
949	10	4	143	79.0%	18.2%	97.2%	0.6	0.6	1.15	1.10	0.88	0.75
949	11	4	149	65.8%	26.8%	92.6%	1.5	1.5	1.54	1.54	0.88	0.75
950	08	2	142	90.8%	8.5%	99.3%	0.4	0.4	0.74	0.70	0.89	0.84
950	09	6	151	88.1%	7.9%	96.0%	1.1	1.2	1.97	2.01	0.97	0.91
950	10	2	141	78.7%	18.4%	97.2%	0.7	0.6	0.85	0.81	0.78	0.71
950	11	2	146	87.0%	11.0%	97.9%	1.0	0.9	0.93	0.95	0.89	0.85

Appendix D: Partial-Credit Model Item Analysis

The first five columns from the left contain the test name, form name, item type, item number on the form, and maximum points possible for the item. The sixth column contains the number of students that the item was administered to. The remaining eight columns contain the Rasch Item Difficulty, step difficulties (for multi-point items only), and the INFIT Rasch model fit statistic. Items without statistics are DNS (Do Not Score) status items.

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	922	MC	01	1	835	-0.3948							1.10
2014_TRIG	922	MC	02	1	835	0.7041							1.02
2014_TRIG	922	MC	03	1	835	0.2735							1.05
2014_TRIG	922	MC	04	1	835	-0.6620							0.88
2014_TRIG	922	MC	05	1	835	0.1632							0.97
2014_TRIG	922	MC	06	1	835	-1.1139							1.00
2014_TRIG	922	MC	07	1	835	-0.0922							0.93
2014_TRIG	922	CR	08	2	835	0.3117	0.8383	-0.8383					1.12
2014_TRIG	922	CR	09	2	835	1.1214	-0.7836	0.7836					1.01
2014_TRIG	922	CR	10	4	835	0.9905	1.4044	-0.5794	1.1110	-1.9360			1.08
2014_TRIG	922	CR	11	4	835	0.9636	0.8577	0.3154	-1.0797	-0.0933			0.86
2014_TRIG	923	MC	01	1	839	0.1596							1.03
2014_TRIG	923	MC	02	1	839	0.2006							1.04
2014_TRIG	923	MC	03	1	839	0.4038							1.02
2014_TRIG	923	MC	04	1	839	0.0211							0.99
2014_TRIG	923	MC	05	1	839	0.0211							1.04
2014_TRIG	923	MC	06	1	839	-1.0412							1.01
2014_TRIG	923	MC	07	1	839	0.9389							1.03
2014_TRIG	923	CR	08	2	839	0.0811	1.0040	-1.0040					0.97
2014_TRIG	923	CR	09	4	839	0.0303	1.7615	-0.4952	0.7918	-2.0581			0.94
2014_TRIG	923	CR	10	4	839	0.8591	1.6743	-1.2048	1.0277	-1.4972			0.94
2014_TRIG	923	CR	11	2	839	0.8477	-0.1590	0.1590					0.95

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	924	MC	01	1	847	-0.5759							1.14
2014_TRIG	924	MC	02	1	847	-0.4019							0.99
2014_TRIG	924	MC	03	1	847	0.8409							1.09
2014_TRIG	924	MC	04	1	847	1.2940							0.99
2014_TRIG	924	MC	05	1	847	0.2426							1.11
2014_TRIG	924	MC	06	1	847	0.3979							1.07
2014_TRIG	924	MC	07	1	847	-0.4290							1.03
2014_TRIG	924	CR	08	2	847	0.0605	0.9083	-0.9083					0.82
2014_TRIG	924	CR	09	4	847	0.3383	-0.6239	0.4430	0.0425	0.1383			0.88
2014_TRIG	924	CR	10	2	847	1.5105	-0.1956	0.1956					0.90
2014_TRIG	924	CR	11	4	847	1.0938	0.7998	0.0777	-0.5873	-0.2901			0.89
2014_TRIG	925	MC	01	1	844	0.4622							0.96
2014_TRIG	925	MC	02	1	844	-0.7428							1.08
2014_TRIG	925	MC	03	1	844	1.2096							1.01
2014_TRIG	925	MC	04	1	844	-0.3183							1.02
2014_TRIG	925	MC	05	1	844	-0.8424							1.06
2014_TRIG	925	MC	06	1	844	0.3654							1.01
2014_TRIG	925	MC	07	1	844	1.0760							1.11
2014_TRIG	925	CR	08	4	844	0.0461	0.8319	0.2524	-0.7282	-0.3561			0.90
2014_TRIG	925	CR	09	2	844	0.9285	0.8255	-0.8255					0.93
2014_TRIG	925	CR	10	2	844	1.0203	0.3890	-0.3890					0.85
2014_TRIG	925	CR	11	4	844	1.0568	0.4456	-1.1276	1.6091	-0.9271			1.02
2014_TRIG	926	MC	01	1	844	-0.2447							1.03
2014_TRIG	926	MC	02	1	844	-0.3707							0.95
2014_TRIG	926	MC	03	1	844	0.0981							1.13
2014_TRIG	926	MC	04	1	844	0.5555							1.06
2014_TRIG	926	MC	05	1	844	0.3682							0.93
2014_TRIG	926	MC	06	1	844	0.7469							1.05
2014_TRIG	926	MC	07	1	844	0.8890							1.01

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	926	CR	08	4	844	0.8049	1.6479	-1.7316	0.8649	-0.7812			0.95
2014_TRIG	926	CR	09	2	844	-1.0031	1.2743	-1.2743					0.95
2014_TRIG	926	CR	10	4	844	1.2492	0.7563	-0.9667	0.8602	-0.6498			1.03
2014_TRIG	926	CR	11	2	844	0.6974	-0.0061	0.0061					0.93
2014_TRIG	927	MC	01	1	840	-0.0815							0.87
2014_TRIG	927	MC	02	1	840	-0.9212							0.99
2014_TRIG	927	MC	03	1	840	-0.0704							1.00
2014_TRIG	927	MC	04	1	840	0.3047							1.01
2014_TRIG	927	MC	05	1	840	0.1491							1.08
2014_TRIG	927	MC	06	1	840	-0.2760							0.96
2014_TRIG	927	MC	07	1	840	0.4230							1.07
2014_TRIG	927	CR	08	4	840	0.5852	-0.5968	-0.7210	1.2105	0.1072			1.02
2014_TRIG	927	CR	09	4	840	0.5335	0.9715	-1.3852	1.0455	-0.6318			1.13
2014_TRIG	927	CR	10	2	840	-0.1223	0.5633	-0.5633					0.94
2014_TRIG	927	CR	11	2	840	0.8850	-0.1308	0.1308					0.98
2014_TRIG	928	MC	01	1	850	0.8131							0.97
2014_TRIG	928	MC	02	1	850	0.2897							1.03
2014_TRIG	928	MC	03	1	850	-0.4385							1.07
2014_TRIG	928	MC	04	1	850	0.2152							1.04
2014_TRIG	928	MC	05	1	850	-0.4275							0.97
2014_TRIG	928	MC	06	1	850	0.1755							0.96
2014_TRIG	928	MC	07	1	850	0.1642							0.97
2014_TRIG	928	CR	08	2	850	2.0069	0.2809	-0.2809					1.08
2014_TRIG	928	CR	09	2	850	0.8960	-0.2372	0.2372					1.00
2014_TRIG	928	CR	10	2	850	0.2000	1.6647	-1.6647					1.04
2014_TRIG	928	CR	11	6	850	1.1890	1.5666	-1.1442	-0.2300	0.1053	-0.4950	0.1973	0.84
2014_TRIG	929	MC	01	1	868	-0.6330							0.97
2014_TRIG	929	MC	02	1	868	-1.4520							1.00
2014_TRIG	929	MC	03	1	868	1.2065							1.10

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	929	MC	04	1	868	-0.0499							1.06
2014_TRIG	929	MC	05	1	868	-1.2490							0.98
2014_TRIG	929	MC	06	1	868	0.0951							1.02
2014_TRIG	929	MC	07	1	868	-0.5894							0.98
2014_TRIG	929	CR	08	2	868	0.9839	-0.2243	0.2243					1.04
2014_TRIG	929	CR	09	6	868	1.2803	1.3604	0.0043	2.3741	-1.7144	1.2716	-3.2960	0.80
2014_TRIG	929	CR	10	2	868	-0.9554	1.4909	-1.4908					0.94
2014_TRIG	929	CR	11	2	868	0.0078	1.0483	-1.0483					0.84
2014_TRIG	930	MC	01	1	862	-0.9161							0.86
2014_TRIG	930	MC	02	1	862	-1.3064							0.93
2014_TRIG	930	MC	03	1	862	0.2532							1.24
2014_TRIG	930	MC	04	1	862	-0.0029							1.01
2014_TRIG	930	MC	05	1	862	0.8831							1.13
2014_TRIG	930	MC	06	1	862	0.2758							1.12
2014_TRIG	930	MC	07	1	862	-0.5924							0.93
2014_TRIG	930	CR	08	2	862	0.9572	-0.3508	0.3508					1.06
2014_TRIG	930	CR	09	2	862	-0.0201	0.9085	-0.9085					0.85
2014_TRIG	930	CR	10	6	862	1.0914	0.9830	-0.1197	-0.9314	2.1725	-0.5336	-1.5707	0.77
2014_TRIG	930	CR	11	2	862	1.7129	0.7799	-0.7799					0.96
2014_TRIG	931	MC	01	1	876	0.5925							1.03
2014_TRIG	931	MC	02	1	876	-0.5584							1.00
2014_TRIG	931	MC	03	1	876	-0.9096							0.89
2014_TRIG	931	MC	04	1	876	-0.1303							1.07
2014_TRIG	931	MC	05	1	876	0.4096							0.96
2014_TRIG	931	MC	06	1	876	1.2124							1.07
2014_TRIG	931	MC	07	1	876	-0.7082							1.02
2014_TRIG	931	CR	08	6	876	0.9623	0.6853	0.0251	0.6916	1.7670	-1.4814	-1.6876	0.76
2014_TRIG	931	CR	09	2	876	0.7863	0.3800	-0.3800					1.09
2014_TRIG	931	CR	10	2	876	2.1449	0.8818	-0.8818					0.89

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	931	CR	11	2	876	1.4928	1.1384	-1.1384					1.07
2014_TRIG	932	MC	01	1	867	-0.0319							1.04
2014_TRIG	932	MC	02	1	867	0.7266							1.01
2014_TRIG	932	MC	03	1	867	-0.1775							1.07
2014_TRIG	932	MC	04	1	867	0.2817							1.11
2014_TRIG	932	MC	05	1	867	0.4536							1.06
2014_TRIG	932	MC	06	1	867	-0.5891							0.93
2014_TRIG	932	MC	07	1	867	-0.1936							1.00
2014_TRIG	932	CR	08	2	867	1.3119	1.2417	-1.2417					0.93
2014_TRIG	932	CR	09	2	867	-0.0960	0.8264	-0.8264					0.88
2014_TRIG	932	CR	10	4	867	0.8247	2.0963	-2.8820	1.8260	-1.0403			1.08
2014_TRIG	932	CR	11	4	867	1.0343	0.7715	0.2810	0.1777	-1.2302			0.94
2014_TRIG	933	MC	01	1	871	-1.1363							0.88
2014_TRIG	933	MC	02	1	871	0.2203							1.04
2014_TRIG	933	MC	03	1	871	-0.8145							1.00
2014_TRIG	933	MC	04	1	871	0.5337							1.04
2014_TRIG	933	MC	05	1	871	0.8281							1.13
2014_TRIG	933	MC	06	1	871	-0.4284							1.15
2014_TRIG	933	MC	07	1	871	-0.5940							1.01
2014_TRIG	933	CR	08	2	871	0.6381	0.5331	-0.5331					0.84
2014_TRIG	933	CR	09	4	871	0.7333	1.1757	-1.9247	0.0024	0.7466			1.02
2014_TRIG	933	CR	10	4	871	1.7089	-1.0843	-0.5544	-0.2145	1.8532			0.93
2014_TRIG	933	CR	11	2	871	0.6737	0.8228	-0.8228					1.00
2014_TRIG	934	MC	01	1	857	-2.0756							1.12
2014_TRIG	934	MC	02	1	857	-0.6519							0.89
2014_TRIG	934	MC	03	1	857	0.7493							1.05
2014_TRIG	934	MC	04	1	857	0.7685							1.10
2014_TRIG	934	MC	05	1	857	-1.0972							0.98
2014_TRIG	934	MC	06	1	857	-0.7900							1.00

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	934	MC	07	1	857	1.7598							1.03
2014_TRIG	934	CR	08	2	857	1.5527	0.8991	-0.8991					0.98
2014_TRIG	934	CR	09	4	857	0.7220	0.2921	-1.0412	0.7959	-0.0468			0.92
2014_TRIG	934	CR	10	2	857	0.2043	0.9175	-0.9175					0.95
2014_TRIG	934	CR	11	4	857	1.1283	0.5244	-1.2234	1.5388	-0.8398			1.00
2014_TRIG	935	MC	01	1	840	0.6469							0.97
2014_TRIG	935	MC	02	1	840	-0.6487							0.99
2014_TRIG	935	MC	03	1	840	-0.8796							1.02
2014_TRIG	935	MC	04	1	840	0.6282							1.20
2014_TRIG	935	MC	05	1	840	-0.0471							0.97
2014_TRIG	935	MC	06	1	840	-0.3651							1.02
2014_TRIG	935	MC	07	1	840	-0.0196							1.01
2014_TRIG	935	CR	08	2	840	0.6439	-0.5172	0.5172					1.00
2014_TRIG	935	CR	09	2	840	0.7158	0.5577	-0.5577					0.97
2014_TRIG	935	CR	10	.									
2014_TRIG	935	CR	11	6	840	0.8697	0.3327	0.4249	-1.6903	0.8737	0.0654	-0.0064	0.79
2014_TRIG	936	MC	01	1	852	-0.7126							1.03
2014_TRIG	936	MC	02	1	852	-0.7755							0.98
2014_TRIG	936	MC	03	1	852	0.3997							0.99
2014_TRIG	936	MC	04	1	852	0.0405							1.03
2014_TRIG	936	MC	05	1	852	1.3080							1.01
2014_TRIG	936	MC	06	1	852	0.2489							1.02
2014_TRIG	936	MC	07	1	852	0.5864							1.17
2014_TRIG	936	CR	08	4	852	0.7018	0.7758	-0.9659	-0.0454	0.2355			0.79
2014_TRIG	936	CR	09	2	852	0.5358	-0.5152	0.5152					1.09
2014_TRIG	936	CR	10	2	852	0.6316	0.6171	-0.6171					0.89
2014_TRIG	936	CR	11	4	852	1.2504	-1.8736	0.4985	-0.0622	1.4374			0.96
2014_TRIG	937	MC	01	1	841	-0.5785							1.00
2014_TRIG	937	MC	02	1	841	1.3046							1.02

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	937	MC	03	1	841	-0.3966							0.99
2014_TRIG	937	MC	04	1	841	1.0744							1.06
2014_TRIG	937	MC	05	1	841	0.5564							1.07
2014_TRIG	937	MC	06	1	841	0.5503							1.04
2014_TRIG	937	MC	07	1	841	-0.3911							1.07
2014_TRIG	937	CR	08	2	841	0.1710	-0.1200	0.1200					0.96
2014_TRIG	937	CR	09	6	841	0.7049	0.9187	-1.6315	0.7813	-0.2707	0.3281	-0.1259	0.81
2014_TRIG	937	CR	10	2	841	2.1532	-0.0917	0.0917					1.01
2014_TRIG	937	CR	11	2	841	0.8561	0.3636	-0.3636					0.99
2014_TRIG	938	MC	01	1	832	0.7727							1.05
2014_TRIG	938	MC	02	1	832	-0.9911							0.97
2014_TRIG	938	MC	03	1	832	-1.0346							1.12
2014_TRIG	938	MC	04	1	832	-0.4908							1.08
2014_TRIG	938	MC	05	1	832	0.1138							1.00
2014_TRIG	938	MC	06	1	832	-0.7211							0.91
2014_TRIG	938	MC	07	1	832	0.3115							0.97
2014_TRIG	938	CR	08	2	832	0.3658	0.6598	-0.6598					0.91
2014_TRIG	938	CR	09	2	832	0.4908	0.4496	-0.4496					1.05
2014_TRIG	938	CR	10	6	832	1.5767	-0.1353	-0.4375	0.6018	0.0409	-1.7165	1.6466	0.87
2014_TRIG	938	CR	11	2	832	-0.9713	1.3902	-1.3902					1.00
2014_TRIG	939	MC	01	1	841	0.1366							1.08
2014_TRIG	939	MC	02	1	841	-0.0552							1.15
2014_TRIG	939	MC	03	1	841	-1.0518							0.91
2014_TRIG	939	MC	04	1	841	-0.1418							0.96
2014_TRIG	939	MC	05	1	841	-0.1904							1.06
2014_TRIG	939	MC	06	1	841	1.4376							1.06
2014_TRIG	939	MC	07	1	841	-1.0700							1.03
2014_TRIG	939	CR	08	2	841	-0.6603	0.5195	-0.5195					0.95
2014_TRIG	939	CR	09	4	841	0.4056	1.0888	-0.7076	0.3942	-0.7754			0.89

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	939	CR	10	4	841	0.1503	-0.3064	0.5001	0.4687	-0.6624			0.97
2014_TRIG	939	CR	11	2	841	1.1349	0.5145	-0.5145					0.90
2014_TRIG	940	MC	01	1	847	-0.2395							0.98
2014_TRIG	940	MC	02	1	847	0.2835							1.12
2014_TRIG	940	MC	03	1	847	-0.1847							0.98
2014_TRIG	940	MC	04	1	847	-0.1245							1.10
2014_TRIG	940	MC	05	1	847	0.4117							1.08
2014_TRIG	940	MC	06	1	847	1.9965							1.11
2014_TRIG	940	MC	07	1	847	0.1752							0.96
2014_TRIG	940	CR	08	2	847	0.6629	0.3819	-0.3819					0.96
2014_TRIG	940	CR	09	6	847	0.3799	0.1366	-0.4035	0.7788	-0.8784	-0.4290	0.7954	0.73
2014_TRIG	940	CR	10	2	847	1.1671	0.1550	-0.1550					1.00
2014_TRIG	940	CR	11	2	847	1.0733	1.4283	-1.4283					0.96
2014_TRIG	941	MC	01	1	851	0.1509							1.03
2014_TRIG	941	MC	02	1	851	0.3051							1.11
2014_TRIG	941	MC	03	1	851	-0.2477							1.03
2014_TRIG	941	MC	04	1	851	-0.8460							1.04
2014_TRIG	941	MC	05	1	851	-0.3575							0.93
2014_TRIG	941	MC	06	1	851	-0.8752							0.99
2014_TRIG	941	MC	07	1	851	0.0723							0.97
2014_TRIG	941	CR	08	4	851	1.2523	1.0485	-1.0904	1.0625	-1.0206			0.83
2014_TRIG	941	CR	09	4	851	0.5696	0.3519	-0.5287	-0.0473	0.2241			1.01
2014_TRIG	941	CR	10	2	851	0.1911	0.9756	-0.9756					0.85
2014_TRIG	941	CR	11	2	851	0.8960	0.2568	-0.2568					1.19
2014_TRIG	942	MC	01	1	839	0.5754							1.02
2014_TRIG	942	MC	02	1	839	-0.0793							1.07
2014_TRIG	942	MC	03	1	839	-0.5673							0.96
2014_TRIG	942	MC	04	1	839	0.2816							0.98
2014_TRIG	942	MC	05	1	839	-0.8184							1.05

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	942	MC	06	1	839	0.0845							1.00
2014_TRIG	942	MC	07	1	839	1.0129							1.08
2014_TRIG	942	CR	08	2	839	0.4419	1.0110	-1.0110					1.05
2014_TRIG	942	CR	09	4	839	1.1068	1.2354	-1.0672	0.0013	-0.1694			0.80
2014_TRIG	942	CR	10	2	839	0.7737	0.5519	-0.5519					0.93
2014_TRIG	942	CR	11	4	839	2.4337	1.8922	-1.6732	0.2240	-0.4430			1.21
2014_TRIG	943	MC	01	1	839	-0.6828							0.96
2014_TRIG	943	MC	02	1	839	0.4444							1.13
2014_TRIG	943	MC	03	1	839	-0.7245							1.07
2014_TRIG	943	MC	04	1	839	0.3094							0.98
2014_TRIG	943	MC	05	1	839	-0.8025							0.90
2014_TRIG	943	MC	06	1	839	0.2432							1.09
2014_TRIG	943	MC	07	1	839	-1.6344							1.05
2014_TRIG	943	CR	08	2	839	1.4185	0.2642	-0.2642					0.95
2014_TRIG	943	CR	09	2	839	1.0974	0.7143	-0.7143					0.90
2014_TRIG	943	CR	10	2	839	0.9378	0.4690	-0.4690					0.95
2014_TRIG	943	CR	11	4	839	0.9671	-1.1134	1.1285	-0.2376	0.2225			0.99
2014_TRIG	944	MC	01	1	827	-0.7470							0.97
2014_TRIG	944	MC	02	1	827	0.6218							1.12
2014_TRIG	944	MC	03	1	827	0.4203							1.09
2014_TRIG	944	MC	04	1	827	-0.6226							0.93
2014_TRIG	944	MC	05	1	827	0.1684							1.10
2014_TRIG	944	MC	06	1	827	-0.1040							0.94
2014_TRIG	944	MC	07	1	827	0.7002							1.01
2014_TRIG	944	CR	08	2	827	0.5726	-0.2404	0.2404					0.97
2014_TRIG	944	CR	09	2	827	0.4017	0.3397	-0.3397					0.92
2014_TRIG	944	CR	10	4	827	0.8531	0.5239	0.0407	-0.8303	0.2658			0.97
2014_TRIG	944	CR	11	4	827	0.5609	-1.2435	1.2673	0.1275	-0.1513			1.00
2014_TRIG	945	MC	01	1	834	-0.3790							0.96

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	945	MC	02	1	834	1.3268							1.13
2014_TRIG	945	MC	03	1	834	0.5586							1.11
2014_TRIG	945	MC	04	1	834	0.4422							1.08
2014_TRIG	945	MC	05	1	834	-0.7436							0.99
2014_TRIG	945	MC	06	1	834	-0.1556							0.98
2014_TRIG	945	MC	07	1	834	-1.0945							1.02
2014_TRIG	945	CR	08	4	834	0.7725	1.2535	-0.4816	-0.0565	-0.7154			0.88
2014_TRIG	945	CR	09	2	834	-0.2332	0.6086	-0.6086					1.00
2014_TRIG	945	CR	10	2	834	0.5879	0.7813	-0.7813					0.89
2014_TRIG	945	CR	11	4	834	1.1400	-0.0753	-1.1794	-0.8097	2.0644			0.96
2014_TRIG	946	MC	01	1	822	0.0502							1.06
2014_TRIG	946	MC	02	1	822	-0.6114							0.97
2014_TRIG	946	MC	03	1	822	-0.1425							1.03
2014_TRIG	946	MC	04	1	822	-0.1875							0.97
2014_TRIG	946	MC	05	1	822	1.2246							1.04
2014_TRIG	946	MC	06	1	822	0.1422							1.11
2014_TRIG	946	MC	07	1	822	0.4517							1.02
2014_TRIG	946	CR	08	2	822	1.2684	-0.2302	0.2302					0.94
2014_TRIG	946	CR	09	4	822	0.8336	0.9175	-0.2846	-0.0051	-0.6278			0.84
2014_TRIG	946	CR	10	2	822	0.2072	1.1950	-1.1950					1.05
2014_TRIG	946	CR	11	4	822	1.0000	1.8423	-0.7068	-0.4753	-0.6602			0.97
2014_TRIG	947	MC	01	1	838	-1.0738							1.09
2014_TRIG	947	MC	02	1	838	0.1776							0.99
2014_TRIG	947	MC	03	1	838	-1.7069							0.94
2014_TRIG	947	MC	04	1	838	-0.3937							1.00
2014_TRIG	947	MC	05	1	838	-1.0036							1.15
2014_TRIG	947	MC	06	1	838	0.2544							0.94
2014_TRIG	947	MC	07	1	838	-1.1915							0.98
2014_TRIG	947	CR	08	2	838	0.8158	0.4436	-0.4436					0.89

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	947	CR	09	2	838	-0.0583	0.9244	-0.9244					0.90
2014_TRIG	947	CR	10	2	838	0.5181	0.7528	-0.7528					1.17
2014_TRIG	947	CR	11	6	838	1.6908	1.7037	-1.0292	-0.1326	0.6942	-1.0099	-0.2262	0.81
2014_TRIG	948	MC	01	1	828	-1.0284							1.00
2014_TRIG	948	MC	02	1	828	0.1244							1.30
2014_TRIG	948	MC	03	1	828	0.8117							1.03
2014_TRIG	948	MC	04	1	828	-0.3084							0.92
2014_TRIG	948	MC	05	1	828	0.3333							0.99
2014_TRIG	948	MC	06	1	828	-0.3715							1.03
2014_TRIG	948	MC	07	1	828	-0.1019							1.02
2014_TRIG	948	CR	08	4	828	0.5107	-0.0958	0.4641	0.1084	-0.4767			1.03
2014_TRIG	948	CR	09	2	828	0.5939	-0.2290	0.2290					0.88
2014_TRIG	948	CR	10	2	828	0.2079	0.8237	-0.8237					0.89
2014_TRIG	948	CR	11	4	828	1.4307	1.9521	-2.8482	-0.2567	1.1529			0.96
2014_TRIG	949	MC	01	1	833	-0.3055							1.06
2014_TRIG	949	MC	02	1	833	-1.5574							0.98
2014_TRIG	949	MC	03	1	833	-0.7542							1.04
2014_TRIG	949	MC	04	1	833	0.0067							1.15
2014_TRIG	949	MC	05	1	833	-0.0043							1.07
2014_TRIG	949	MC	06	1	833	-0.3990							0.91
2014_TRIG	949	MC	07	1	833	-0.2343							0.94
2014_TRIG	949	CR	08	2	833	-0.2471	0.6811	-0.6811					0.94
2014_TRIG	949	CR	09	2	833	-0.0392	0.9525	-0.9525					0.92
2014_TRIG	949	CR	10	4	833	0.9899	0.7504	-0.8958	0.6951	-0.5496			1.08
2014_TRIG	949	CR	11	4	833	0.1770	0.0670	-0.0635	0.2169	-0.2204			0.99
2014_TRIG	950	MC	01	1	828	-0.5228							1.02
2014_TRIG	950	MC	02	1	828	-0.1006							1.12
2014_TRIG	950	MC	03	1	828	0.3845							1.01
2014_TRIG	950	MC	04	1	828	-1.7230							0.93

Test	Form	Type	Item	Max	N-Count	RID	S1	S2	S3	S4	S5	S6	INFIT
2014_TRIG	950	MC	05	1	828	-0.1917							1.11
2014_TRIG	950	MC	06	1	828	-0.2826							1.04
2014_TRIG	950	MC	07	1	828	-0.1746							1.05
2014_TRIG	950	CR	08	2	828	0.8127	0.5494	-0.5494					0.94
2014_TRIG	950	CR	09	6	828	0.7814	1.6698	-0.9687	0.6917	-1.5410	0.3614	-0.2132	0.75
2014_TRIG	950	CR	10	2	828	0.4855	0.6573	-0.6573					0.95
2014_TRIG	950	CR	11	2	828	-0.1445	0.7683	-0.7683					0.99

Appendix E: DIF Statistics

The first four columns from the left contain the test name, form ID, item type, and item sequence number within the form. The next three columns contain the Mantel-Haenszel DIF statistical values (note that the MH Delta statistic cannot be calculated for CR items). The final two columns will only have values if the item displays possible moderate or severe DIF; if so, the degree of DIF (B/BB = moderate; C/CC = severe) and the favored group will be shown. Items without statistics are DNS (Do Not Score) status items.

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	922	MC	01	-0.25	0.52	-0.05		
2014_TRIG	922	MC	02	-0.15	0.14	-0.02		
2014_TRIG	922	MC	03	0.15	0.15	0.01		
2014_TRIG	922	MC	04	-0.30	0.54	-0.05		
2014_TRIG	922	MC	05	0.05	0.02	0.02		
2014_TRIG	922	MC	06	0.22	0.31	0.05		
2014_TRIG	922	MC	07	-0.57	2.16	-0.08		
2014_TRIG	922	CR	08		0.40	0.09		
2014_TRIG	922	CR	09		0.37	-0.07		
2014_TRIG	922	CR	10		0.03	-0.02		
2014_TRIG	922	CR	11		1.55	0.03		
2014_TRIG	923	MC	01	-0.23	0.38	-0.04		
2014_TRIG	923	MC	02	-0.37	1.03	-0.08		
2014_TRIG	923	MC	03	-0.25	0.45	-0.03		
2014_TRIG	923	MC	04	0.17	0.23	0.04		
2014_TRIG	923	MC	05	-0.28	0.59	-0.06		
2014_TRIG	923	MC	06	-0.94	5.65	-0.14		
2014_TRIG	923	MC	07	-0.47	1.26	-0.08		
2014_TRIG	923	CR	08		0.32	0.03		
2014_TRIG	923	CR	09		1.67	-0.06		
2014_TRIG	923	CR	10		7.13	0.13		
2014_TRIG	923	CR	11		6.92	0.16		
2014_TRIG	924	MC	01	0.58	2.68	0.11		
2014_TRIG	924	MC	02	-0.15	0.17	-0.02		
2014_TRIG	924	MC	03	0.10	0.07	0.03		
2014_TRIG	924	MC	04	-0.07	0.03	0.03		
2014_TRIG	924	MC	05	-0.72	3.96	-0.16		
2014_TRIG	924	MC	06	-0.25	0.47	-0.05		
2014_TRIG	924	MC	07	-0.73	4.05	-0.15		
2014_TRIG	924	CR	08		0.87	0.02		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	924	CR	09		4.08	0.11		
2014_TRIG	924	CR	10		0.18	-0.05		
2014_TRIG	924	CR	11		1.04	-0.03		
2014_TRIG	925	MC	01	0.13	0.11	0.03		
2014_TRIG	925	MC	02	0.24	0.44	0.05		
2014_TRIG	925	MC	03	-0.15	0.11	-0.01		
2014_TRIG	925	MC	04	-0.19	0.27	-0.03		
2014_TRIG	925	MC	05	-0.81	4.75	-0.14		
2014_TRIG	925	MC	06	-0.68	3.23	-0.12		
2014_TRIG	925	MC	07	0.16	0.16	0.04		
2014_TRIG	925	CR	08		0.36	-0.03		
2014_TRIG	925	CR	09		0.07	0.01		
2014_TRIG	925	CR	10		2.99	0.12		
2014_TRIG	925	CR	11		1.94	0.06		
2014_TRIG	926	MC	01	0.48	1.77	0.09		
2014_TRIG	926	MC	02	-0.23	0.38	-0.03		
2014_TRIG	926	MC	03	-0.02	0.00	0.00		
2014_TRIG	926	MC	04	-1.71	20.13	-0.29	C	M
2014_TRIG	926	MC	05	0.57	2.07	0.09		
2014_TRIG	926	MC	06	-0.69	3.01	-0.11		
2014_TRIG	926	MC	07	-0.27	0.43	-0.02		
2014_TRIG	926	CR	08		0.00	0.00		
2014_TRIG	926	CR	09		0.15	0.03		
2014_TRIG	926	CR	10		2.47	0.09		
2014_TRIG	926	CR	11		1.12	0.07		
2014_TRIG	927	MC	01	0.22	0.31	0.03		
2014_TRIG	927	MC	02	-0.21	0.29	-0.02		
2014_TRIG	927	MC	03	0.30	0.66	0.06		
2014_TRIG	927	MC	04	-0.05	0.02	-0.01		
2014_TRIG	927	MC	05	-0.04	0.01	0.01		
2014_TRIG	927	MC	06	0.06	0.03	0.01		
2014_TRIG	927	MC	07	-0.92	5.96	-0.19		
2014_TRIG	927	CR	08		0.06	-0.01		
2014_TRIG	927	CR	09		0.38	0.03		
2014_TRIG	927	CR	10		2.01	0.08		
2014_TRIG	927	CR	11		1.20	-0.08		
2014_TRIG	928	MC	01	0.67	2.75	0.13		
2014_TRIG	928	MC	02	-0.49	1.75	-0.06		
2014_TRIG	928	MC	03	-1.13	9.57	-0.19	B	M
2014_TRIG	928	MC	04	0.27	0.54	0.05		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	928	MC	05	0.22	0.34	0.04		
2014_TRIG	928	MC	06	0.39	1.11	0.08		
2014_TRIG	928	MC	07	0.01	0.00	0.02		
2014_TRIG	928	CR	08		4.51	0.15		
2014_TRIG	928	CR	09		0.34	-0.03		
2014_TRIG	928	CR	10		0.59	-0.03		
2014_TRIG	928	CR	11		0.24	0.04		
2014_TRIG	929	MC	01	0.23	0.39	0.04		
2014_TRIG	929	MC	02	-0.14	0.12	-0.01		
2014_TRIG	929	MC	03	-0.33	0.63	-0.06		
2014_TRIG	929	MC	04	-0.03	0.01	-0.01		
2014_TRIG	929	MC	05	0.19	0.23	0.02		
2014_TRIG	929	MC	06	-0.06	0.03	-0.01		
2014_TRIG	929	MC	07	0.39	1.17	0.08		
2014_TRIG	929	CR	08		0.04	-0.01		
2014_TRIG	929	CR	09		2.13	0.05		
2014_TRIG	929	CR	10		1.02	-0.06		
2014_TRIG	929	CR	11		0.68	-0.04		
2014_TRIG	930	MC	01	-0.39	0.88	-0.05		
2014_TRIG	930	MC	02	0.36	0.75	0.04		
2014_TRIG	930	MC	03	0.13	0.14	0.03		
2014_TRIG	930	MC	04	-0.34	0.87	-0.05		
2014_TRIG	930	MC	05	-0.05	0.01	0.01		
2014_TRIG	930	MC	06	-0.83	5.42	-0.15		
2014_TRIG	930	MC	07	0.88	5.30	0.14		
2014_TRIG	930	CR	08		0.01	-0.01		
2014_TRIG	930	CR	09		2.24	0.10		
2014_TRIG	930	CR	10		0.15	-0.04		
2014_TRIG	930	CR	11		0.62	-0.03		
2014_TRIG	931	MC	01	-0.30	0.61	-0.05		
2014_TRIG	931	MC	02	0.83	4.95	0.14		
2014_TRIG	931	MC	03	-0.16	0.16	-0.02		
2014_TRIG	931	MC	04	-0.65	3.25	-0.12		
2014_TRIG	931	MC	05	-0.40	1.01	-0.05		
2014_TRIG	931	MC	06	-0.24	0.34	-0.06		
2014_TRIG	931	MC	07	0.31	0.70	0.06		
2014_TRIG	931	CR	08		0.29	-0.03		
2014_TRIG	931	CR	09		0.03	0.02		
2014_TRIG	931	CR	10		3.90	0.13		
2014_TRIG	931	CR	11		0.58	0.04		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	932	MC	01	0.59	2.74	0.14		
2014_TRIG	932	MC	02	0.26	0.45	0.09		
2014_TRIG	932	MC	03	-0.25	0.50	-0.01		
2014_TRIG	932	MC	04	-0.87	6.03	-0.14		
2014_TRIG	932	MC	05	-0.37	1.02	-0.05		
2014_TRIG	932	MC	06	-0.13	0.12	0.02		
2014_TRIG	932	MC	07	-0.23	0.39	-0.03		
2014_TRIG	932	CR	08		1.80	-0.02		
2014_TRIG	932	CR	09		8.90	0.20	BB	F
2014_TRIG	932	CR	10		1.84	0.12		
2014_TRIG	932	CR	11		3.44	-0.06		
2014_TRIG	933	MC	01	-1.83	17.29	-0.25	C	M
2014_TRIG	933	MC	02	-0.42	1.37	-0.08		
2014_TRIG	933	MC	03	0.20	0.27	0.03		
2014_TRIG	933	MC	04	-0.20	0.30	-0.03		
2014_TRIG	933	MC	05	-0.12	0.10	-0.02		
2014_TRIG	933	MC	06	0.54	2.43	0.11		
2014_TRIG	933	MC	07	-0.34	0.86	-0.05		
2014_TRIG	933	CR	08		0.25	-0.04		
2014_TRIG	933	CR	09		7.70	0.13		
2014_TRIG	933	CR	10		1.23	0.06		
2014_TRIG	933	CR	11		2.89	-0.09		
2014_TRIG	934	MC	01	0.29	0.39	0.05		
2014_TRIG	934	MC	02	1.27	10.13	0.19	B	F
2014_TRIG	934	MC	03	-0.40	1.10	-0.04		
2014_TRIG	934	MC	04	-0.51	1.85	-0.09		
2014_TRIG	934	MC	05	0.09	0.06	0.02		
2014_TRIG	934	MC	06	0.31	0.67	0.06		
2014_TRIG	934	MC	07	-0.03	0.00	0.03		
2014_TRIG	934	CR	08		10.56	-0.18	BB	M
2014_TRIG	934	CR	09		1.36	0.06		
2014_TRIG	934	CR	10		0.63	0.07		
2014_TRIG	934	CR	11		1.76	-0.07		
2014_TRIG	935	MC	01	-0.66	2.76	-0.10		
2014_TRIG	935	MC	02	-0.14	0.14	-0.03		
2014_TRIG	935	MC	03	-0.05	0.02	-0.01		
2014_TRIG	935	MC	04	-0.19	0.26	-0.05		
2014_TRIG	935	MC	05	0.33	0.79	0.06		
2014_TRIG	935	MC	06	0.92	6.29	0.17		
2014_TRIG	935	MC	07	-0.95	6.74	-0.18		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	935	CR	08		0.01	0.01		
2014_TRIG	935	CR	09		0.00	0.00		
2014_TRIG	935	CR	10					
2014_TRIG	935	CR	11		0.63	0.03		
2014_TRIG	936	MC	01	-0.60	2.77	-0.12		
2014_TRIG	936	MC	02	0.77	4.11	0.14		
2014_TRIG	936	MC	03	-0.01	0.00	0.01		
2014_TRIG	936	MC	04	0.35	0.93	0.06		
2014_TRIG	936	MC	05	-0.14	0.10	-0.06		
2014_TRIG	936	MC	06	-0.74	3.92	-0.12		
2014_TRIG	936	MC	07	-0.39	1.10	-0.05		
2014_TRIG	936	CR	08		5.47	0.12		
2014_TRIG	936	CR	09		6.68	0.17	BB	F
2014_TRIG	936	CR	10		0.00	-0.04		
2014_TRIG	936	CR	11		15.24	-0.22	BB	M
2014_TRIG	937	MC	01	-0.66	3.33	-0.10		
2014_TRIG	937	MC	02	-0.92	4.13	-0.14		
2014_TRIG	937	MC	03	-0.76	4.35	-0.14		
2014_TRIG	937	MC	04	0.00	0.00	0.01		
2014_TRIG	937	MC	05	-0.37	0.97	-0.06		
2014_TRIG	937	MC	06	-0.09	0.06	0.00		
2014_TRIG	937	MC	07	0.68	3.71	0.14		
2014_TRIG	937	CR	08		5.08	0.14		
2014_TRIG	937	CR	09		0.61	0.05		
2014_TRIG	937	CR	10		0.23	0.04		
2014_TRIG	937	CR	11		0.28	-0.02		
2014_TRIG	938	MC	01	0.06	0.02	0.03		
2014_TRIG	938	MC	02	0.25	0.40	0.03		
2014_TRIG	938	MC	03	-0.90	5.74	-0.18		
2014_TRIG	938	MC	04	-0.23	0.42	-0.04		
2014_TRIG	938	MC	05	0.01	0.00	0.01		
2014_TRIG	938	MC	06	-0.76	3.60	-0.12		
2014_TRIG	938	MC	07	-0.56	2.06	-0.09		
2014_TRIG	938	CR	08		0.12	0.01		
2014_TRIG	938	CR	09		1.30	0.07		
2014_TRIG	938	CR	10		1.63	0.08		
2014_TRIG	938	CR	11		0.62	0.04		
2014_TRIG	939	MC	01	-0.23	0.40	-0.05		
2014_TRIG	939	MC	02	-0.37	1.12	-0.08		
2014_TRIG	939	MC	03	-0.78	3.69	-0.12		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	939	MC	04	-0.46	1.48	-0.08		
2014_TRIG	939	MC	05	-0.58	2.63	-0.10		
2014_TRIG	939	MC	06	-0.17	0.14	-0.03		
2014_TRIG	939	MC	07	0.35	0.81	0.05		
2014_TRIG	939	CR	08		0.81	-0.05		
2014_TRIG	939	CR	09		8.81	0.15		
2014_TRIG	939	CR	10		0.46	0.03		
2014_TRIG	939	CR	11		0.67	-0.07		
2014_TRIG	940	MC	01	-0.36	0.94	-0.07		
2014_TRIG	940	MC	02	-0.22	0.37	-0.04		
2014_TRIG	940	MC	03	-0.05	0.02	-0.02		
2014_TRIG	940	MC	04	0.07	0.05	0.02		
2014_TRIG	940	MC	05	-0.05	0.02	0.00		
2014_TRIG	940	MC	06	-0.06	0.01	-0.02		
2014_TRIG	940	MC	07	-0.21	0.32	-0.03		
2014_TRIG	940	CR	08		0.89	-0.06		
2014_TRIG	940	CR	09		2.75	0.06		
2014_TRIG	940	CR	10		0.22	-0.02		
2014_TRIG	940	CR	11		0.00	0.01		
2014_TRIG	941	MC	01	0.25	0.48	0.03		
2014_TRIG	941	MC	02	-0.17	0.21	-0.05		
2014_TRIG	941	MC	03	-0.63	2.97	-0.13		
2014_TRIG	941	MC	04	0.39	1.09	0.07		
2014_TRIG	941	MC	05	-1.00	6.64	-0.16	B	M
2014_TRIG	941	MC	06	-0.76	3.80	-0.12		
2014_TRIG	941	MC	07	0.66	3.00	0.12		
2014_TRIG	941	CR	08		0.30	0.06		
2014_TRIG	941	CR	09		0.11	0.01		
2014_TRIG	941	CR	10		0.31	0.04		
2014_TRIG	941	CR	11		0.42	0.02		
2014_TRIG	942	MC	01	-0.80	4.16	-0.14		
2014_TRIG	942	MC	02	-0.02	0.00	-0.03		
2014_TRIG	942	MC	03	-0.60	2.34	-0.11		
2014_TRIG	942	MC	04	0.82	4.33	0.12		
2014_TRIG	942	MC	05	0.02	0.00	0.01		
2014_TRIG	942	MC	06	0.04	0.01	-0.01		
2014_TRIG	942	MC	07	-0.76	3.39	-0.13		
2014_TRIG	942	CR	08		6.96	0.14		
2014_TRIG	942	CR	09		0.01	0.03		
2014_TRIG	942	CR	10		3.63	-0.10		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	942	CR	11		3.94	0.13		
2014_TRIG	943	MC	01	-0.07	0.03	-0.01		
2014_TRIG	943	MC	02	-0.51	1.85	-0.10		
2014_TRIG	943	MC	03	-1.17	9.72	-0.23	B	M
2014_TRIG	943	MC	04	-0.29	0.55	-0.06		
2014_TRIG	943	MC	05	0.50	1.46	0.07		
2014_TRIG	943	MC	06	-0.83	5.02	-0.16		
2014_TRIG	943	MC	07	0.24	0.32	0.04		
2014_TRIG	943	CR	08		0.92	0.07		
2014_TRIG	943	CR	09		0.35	0.04		
2014_TRIG	943	CR	10		1.40	0.07		
2014_TRIG	943	CR	11		2.89	0.09		
2014_TRIG	944	MC	01	-0.50	1.66	-0.09		
2014_TRIG	944	MC	02	-0.36	0.94	-0.05		
2014_TRIG	944	MC	03	-0.75	4.09	-0.15		
2014_TRIG	944	MC	04	-0.37	0.88	-0.07		
2014_TRIG	944	MC	05	0.22	0.35	0.04		
2014_TRIG	944	MC	06	0.12	0.10	0.00		
2014_TRIG	944	MC	07	-0.85	4.43	-0.15		
2014_TRIG	944	CR	08		4.77	0.15		
2014_TRIG	944	CR	09		0.05	0.01		
2014_TRIG	944	CR	10		0.13	-0.02		
2014_TRIG	944	CR	11		3.54	0.10		
2014_TRIG	945	MC	01	-0.40	1.11	-0.06		
2014_TRIG	945	MC	02	0.14	0.11	0.04		
2014_TRIG	945	MC	03	-0.31	0.68	-0.08		
2014_TRIG	945	MC	04	-0.15	0.16	-0.05		
2014_TRIG	945	MC	05	-0.25	0.44	-0.05		
2014_TRIG	945	MC	06	-0.16	0.19	-0.03		
2014_TRIG	945	MC	07	-0.22	0.30	-0.02		
2014_TRIG	945	CR	08		0.29	0.04		
2014_TRIG	945	CR	09		0.83	-0.05		
2014_TRIG	945	CR	10		4.32	0.15		
2014_TRIG	945	CR	11		0.37	0.03		
2014_TRIG	946	MC	01	-0.01	0.00	0.00		
2014_TRIG	946	MC	02	0.51	1.84	0.09		
2014_TRIG	946	MC	03	0.24	0.44	0.06		
2014_TRIG	946	MC	04	-0.34	0.88	-0.05		
2014_TRIG	946	MC	05	0.07	0.03	0.03		
2014_TRIG	946	MC	06	-0.13	0.14	-0.02		

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	946	MC	07	0.15	0.15	0.01		
2014_TRIG	946	CR	08		3.81	-0.11		
2014_TRIG	946	CR	09		1.86	0.07		
2014_TRIG	946	CR	10		3.80	-0.13		
2014_TRIG	946	CR	11		0.97	0.04		
2014_TRIG	947	MC	01	0.32	0.72	0.07		
2014_TRIG	947	MC	02	-0.94	6.02	-0.14		
2014_TRIG	947	MC	03	-0.21	0.22	-0.02		
2014_TRIG	947	MC	04	0.23	0.39	0.03		
2014_TRIG	947	MC	05	0.07	0.03	0.02		
2014_TRIG	947	MC	06	0.11	0.08	0.03		
2014_TRIG	947	MC	07	0.56	1.97	0.09		
2014_TRIG	947	CR	08		1.12	0.07		
2014_TRIG	947	CR	09		3.47	-0.09		
2014_TRIG	947	CR	10		2.01	0.10		
2014_TRIG	947	CR	11		0.76	-0.01		
2014_TRIG	948	MC	01	-0.65	2.74	-0.10		
2014_TRIG	948	MC	02	-0.15	0.19	-0.02		
2014_TRIG	948	MC	03	-1.21	9.01	-0.21	B	M
2014_TRIG	948	MC	04	0.29	0.58	0.05		
2014_TRIG	948	MC	05	-0.67	3.04	-0.12		
2014_TRIG	948	MC	06	0.25	0.46	0.05		
2014_TRIG	948	MC	07	-0.10	0.07	0.00		
2014_TRIG	948	CR	08		2.06	0.07		
2014_TRIG	948	CR	09		0.47	0.03		
2014_TRIG	948	CR	10		0.16	0.02		
2014_TRIG	948	CR	11		0.20	0.02		
2014_TRIG	949	MC	01	-0.40	1.26	-0.07		
2014_TRIG	949	MC	02	-1.11	5.93	-0.17	B	M
2014_TRIG	949	MC	03	-0.23	0.39	-0.06		
2014_TRIG	949	MC	04	-0.37	1.10	-0.09		
2014_TRIG	949	MC	05	-0.09	0.06	-0.01		
2014_TRIG	949	MC	06	0.46	1.41	0.08		
2014_TRIG	949	MC	07	-0.80	4.38	-0.13		
2014_TRIG	949	CR	08		0.33	0.06		
2014_TRIG	949	CR	09		6.24	0.16		
2014_TRIG	949	CR	10		0.02	-0.01		
2014_TRIG	949	CR	11		0.39	0.01		
2014_TRIG	950	MC	01	-0.28	0.57	-0.06		
2014_TRIG	950	MC	02	-1.25	12.19	-0.24	B	M

Test	Form	Type	Item	MH Delta	MH Chi-Sq	Effect Size	DIF Category	Favored Group
2014_TRIG	950	MC	03	-1.07	7.94	-0.17	B	M
2014_TRIG	950	MC	04	0.31	0.43	0.05		
2014_TRIG	950	MC	05	-0.17	0.22	-0.04		
2014_TRIG	950	MC	06	-0.39	1.14	-0.08		
2014_TRIG	950	MC	07	-0.75	4.30	-0.15		
2014_TRIG	950	CR	08		1.07	0.06		
2014_TRIG	950	CR	09		4.92	0.07		
2014_TRIG	950	CR	10		0.01	0.00		
2014_TRIG	950	CR	11		7.54	0.17		

DIF category meanings: A/AA = negligible, B/BB = moderate, C/CC = severe.

Favored group meanings: F = Female, M = Male.

Appendix F: Operational Test Maps

January 2014

Pos	Item Type	Max Points	Weight	Standard	Key Idea	PI	Mean	Pt Bis	RID	INFIT
1	MC	1	2	Algebra		A2.A.30	0.91	0.18	-2.8087	1.05
2	MC	1	2	Algebra		A2.A.42	0.73	0.38	-1.2488	0.38
3	MC	1	2	Number Sense and Operations		A2.N.5	0.71	0.42	-1.2297	0.94
4	MC	1	2	Algebra		A2.A.17	0.64	0.42	-0.7984	1.00
5	MC	1	2	Statistics and Probability		A2.S.1	0.73	0.21	-1.2367	1.12
6	MC	1	2	Algebra		A2.A.43	0.59	0.26	-0.5259	1.16
7	MC	1	2	Algebra		A2.A.24	0.58	0.51	-0.6586	0.92
8	MC	1	2	Statistics and Probability		A2.S.10	0.56	0.38	-0.4927	1.01
9	MC	1	2	Algebra		A2.A.6	0.63	0.44	-0.9033	0.96
10	MC	1	2	Algebra		A2.A.2	0.53	0.39	-0.3706	0.99
11	MC	1	2	Algebra		A2.A.5	0.54	0.36	-0.3190	1.06
12	MC	1	2	Algebra		A2.A.55	0.63	0.44	-0.9042	0.94
13	MC	1	2	Number Sense and Operations		A2.N.10	0.52	0.42	-0.1865	0.99
14	MC	1	2	Algebra		A2.A.47	0.51	0.38	-0.3502	1.01
15	MC	1	2	Algebra		A2.A.39	0.49	0.38	-0.1008	1.01
16	MC	1	2	Statistics and Probability		A2.S.12	0.44	0.33	-0.0066	1.08
17	MC	1	2	Algebra		A2.A.20	0.47	0.31	-0.0249	1.12
18	MC	1	2	Algebra		A2.A.75	0.51	0.32	-0.2906	1.07
19	MC	1	2	Statistics and Probability		A2.S.5	0.48	0.40	-0.0397	0.99
20	MC	1	2	Number Sense and Operations		A2.N.4	0.39	0.36	0.3156	1.03
21	MC	1	2	Algebra		A2.A.54	0.35	0.22	0.4352	1.12
22	MC	1	2	Algebra		A2.A.9	0.83	0.36	-1.9516	0.95
23	MC	1	2	Algebra		A2.A.69	0.34	0.42	0.5918	0.95
24	MC	1	2	Algebra		A2.A.23	0.30	0.17	0.7858	1.14
25	MC	1	2	Algebra		A2.A.16	0.28	0.40	0.7801	1.00
26	MC	1	2	Algebra		A2.A.7	0.23	0.37	1.0930	1.02
27	MC	1	2	Measurement		A2.M.2	0.20	0.22	1.2821	1.13
28	CR	2	1	Algebra		A2.A.67	0.85	0.61	0.0242	0.91
29	CR	2	1	Statistics and Probability		A2.S.4	0.72	0.47	0.3016	1.11
30	CR	2	1	Algebra		A2.A.3	0.74	0.66	0.3472	0.84
31	CR	2	1	Algebra		A2.A.74	0.45	0.55	0.7536	0.99
32	CR	2	1	Algebra		A2.A.1	0.57	0.57	0.7232	0.98
33	CR	2	1	Algebra		A2.A.29	0.58	0.61	0.8267	0.90

Pos	Item Type	Max Points	Weight	Standard	Key Idea	PI	Mean	Pt Bis	RID	INFIT
34	CR	2	1	Number Sense and Operations		A2.N.7	0.45	0.62	0.9987	0.92
35	CR	2	1	Algebra		A2.A.61	0.28	0.54	1.6906	0.93
36	CR	4	1	Algebra		A2.A.68	1.01	0.71	0.6786	0.94
37	CR	4	1	Statistics and Probability		A2.S.15	1.12	0.67	0.5259	1.11
38	CR	4	1	Algebra		A2.A.73	1.12	0.68	0.3649	0.95
39	CR	6	1	Algebra		A2.A.28	0.83	0.77	1.0286	0.75

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Pos	Item Type	Max Points	Weight	Standard	Key Idea	PI	Mean	Pt Bis	RID	INFIT
1	MC	1	2	Statistics and Probability		A2.S.2	0.81	0.33	-1.8539	1.02
2	MC	1	2	Algebra		A2.A.9	0.77	0.41	-1.4927	0.94
3	MC	1	2	Algebra		A2.A.53	0.70	0.37	-1.2245	0.98
4	MC	1	2	Number Sense and Operations		A2.N.6	0.68	0.43	-0.9823	0.92
5	MC	1	2	Algebra		A2.A.74	0.65	0.43	-0.8308	0.98
6	MC	1	2	Number Sense and Operations		A2.N.4	0.57	0.47	-0.5631	0.93
7	MC	1	2	Algebra		A2.A.24	0.62	0.37	-0.7384	1.05
8	MC	1	2	Algebra		A2.A.52	0.54	0.41	-0.3085	0.99
9	MC	1	2	Algebra		A2.A.67	0.57	0.47	-0.5513	0.95
10	MC	1	2	Algebra		A2.A.30	0.54	0.22	-0.4838	1.16
11	MC	1	2	Algebra		A2.A.62	0.48	0.32	-0.1611	1.09
12	MC	1	2	Algebra		A2.A.69	0.50	0.38	-0.1083	1.03
13	MC	1	2	Algebra		A2.A.20	0.54	0.38	-0.3775	1.05
14	MC	1	2	Algebra		A2.A.48	0.45	0.40	-0.0062	1.04
15	MC	1	2	Algebra		A2.A.12	0.45	0.41	0.0327	0.98
16	MC	1	2	Algebra		A2.A.23	0.47	0.35	0.0331	1.07
17	MC	1	2	Algebra		A2.A.51	0.45	0.41	0.0963	1.00
18	MC	1	2	Algebra		A2.A.42	0.43	0.42	0.1215	0.99
19	MC	1	2	Algebra		A2.A.34	0.42	0.51	0.2499	0.91
20	MC	1	2	Algebra		A2.A.76	0.40	0.45	0.3025	0.97
21	MC	1	2	Statistics and Probability		A2.S.11	0.48	0.26	-0.0251	1.13
22	MC	1	2	Algebra		A2.A.2	0.38	0.40	0.4253	1.00
23	MC	1	2	Algebra		A2.A.25	0.31	0.27	0.7266	1.13
24	MC	1	2	Algebra		A2.A.22	0.67	0.40	-0.9608	0.98
25	MC	1	2	Statistics and Probability		A2.S.10	0.33	0.36	0.6919	1.05
26	MC	1	2	Algebra		A2.A.19	0.24	0.28	1.1317	1.04
27	MC	1	2	Algebra		A2.A.63	0.18	0.25	1.5138	1.06
28	CR	2	1	Statistics and Probability		A2.S.5	0.44	0.48	0.8135	1.13
29	CR	2	1	Statistics and Probability		A2.S.7	0.88	0.50	0.0558	1.05
30	CR	2	1	Algebra		A2.A.1	0.79	0.52	0.2760	0.99
31	CR	2	1	Measurement		A2.M.2	0.41	0.55	0.9281	0.95
32	CR	2	1	Number Sense and Operations		A2.N.8	0.87	0.61	0.1877	0.89
33	CR	2	1	Algebra		A2.A.28	0.53	0.65	0.6788	0.84
34	CR	2	1	Algebra		A2.A.68	0.41	0.60	0.8603	0.86
35	CR	2	1	Algebra		A2.A.46	0.40	0.56	0.9882	0.99
36	CR	4	1	Algebra		A2.A.17	1.92	0.78	-0.0722	0.70

Pos	Item Type	Max Points	Weight	Standard	Key Idea	PI	Mean	Pt Bis	RID	INFIT
37	CR	4	1	Algebra		A2.A.26	1.52	0.76	0.1970	0.93
38	CR	4	1	Statistics and Probability		A2.S.15	0.88	0.65	0.6814	1.06
39	CR	6	1	Algebra		A2.A.73	1.74	0.82	0.5800	0.74

Appendix G: Scoring Tables

January 2014

Raw Score	Ability	Scale Score
0	-6.024	0.000
1	-4.786	1.737
2	-4.047	3.457
3	-3.597	5.076
4	-3.267	6.686
5	-3.003	8.333
6	-2.782	9.981
7	-2.590	11.570
8	-2.420	13.156
9	-2.267	14.742
10	-2.127	16.319
11	-1.998	17.898
12	-1.878	19.480
13	-1.766	21.053
14	-1.661	22.612
15	-1.561	24.181
16	-1.467	25.760
17	-1.376	27.312
18	-1.290	28.783
19	-1.208	30.323
20	-1.129	31.793
21	-1.052	33.327
22	-0.979	34.805

Raw Score	Ability	Scale Score
23	-0.909	36.307
24	-0.840	37.745
25	-0.775	39.178
26	-0.711	40.608
27	-0.649	42.030
28	-0.590	43.436
29	-0.532	44.836
30	-0.476	46.187
31	-0.422	47.520
32	-0.370	48.868
33	-0.319	50.164
34	-0.270	51.494
35	-0.222	52.752
36	-0.176	54.012
37	-0.130	55.242
38	-0.086	56.467
39	-0.043	57.701
40	-0.001	58.822
41	0.040	60.035
42	0.080	61.137
43	0.120	62.313
44	0.158	63.420
45	0.197	64.507

Raw Score	Ability	Scale Score
46	0.235	65.589
47	0.272	66.662
48	0.310	67.701
49	0.347	68.689
50	0.384	69.744
51	0.421	70.716
52	0.458	71.670
53	0.496	72.629
54	0.533	73.595
55	0.572	74.562
56	0.610	75.524
57	0.650	76.467
58	0.690	77.340
59	0.731	78.214
60	0.773	79.093
61	0.816	79.979
62	0.861	80.877
63	0.907	81.730
64	0.955	82.586
65	1.004	83.476
66	1.055	84.310
67	1.109	85.151
68	1.165	85.989

Raw Score	Ability	Scale Score
69	1.224	86.750
70	1.285	87.616
71	1.350	88.403
72	1.419	89.188
73	1.492	89.985
74	1.569	90.791
75	1.652	91.507
76	1.741	92.227
77	1.836	92.960
78	1.941	93.705
79	2.055	94.438
80	2.181	95.099
81	2.324	95.772
82	2.486	96.459
83	2.677	97.087
84	2.908	97.692
85	3.203	98.295
86	3.615	98.906
87	4.314	99.461
88	5.522	100.000

June 2014

Raw Score	Ability	Scale Score
0	-5.738	0.000
1	-4.515	2.322
2	-3.795	4.291
3	-3.363	6.140
4	-3.049	8.003
5	-2.799	9.843
6	-2.591	11.563
7	-2.410	13.250
8	-2.251	14.914
9	-2.107	16.551
10	-1.976	18.178
11	-1.855	19.801
12	-1.742	21.403
13	-1.637	22.983
14	-1.538	24.568
15	-1.444	26.146
16	-1.355	27.669
17	-1.270	29.154
18	-1.190	30.654
19	-1.112	32.124
20	-1.038	33.608
21	-0.967	35.061
22	-0.899	36.506
23	-0.834	37.891

Raw Score	Ability	Scale Score
24	-0.771	39.263
25	-0.710	40.623
26	-0.652	41.963
27	-0.596	43.281
28	-0.542	44.586
29	-0.490	45.855
30	-0.440	47.044
31	-0.392	48.322
32	-0.345	49.476
33	-0.300	50.695
34	-0.256	51.864
35	-0.213	53.002
36	-0.171	54.135
37	-0.130	55.246
38	-0.090	56.356
39	-0.051	57.491
40	-0.012	58.529
41	0.026	59.624
42	0.064	60.686
43	0.101	61.744
44	0.138	62.839
45	0.174	63.863
46	0.211	64.905
47	0.247	65.945

Raw Score	Ability	Scale Score
48	0.283	66.984
49	0.320	67.972
50	0.356	68.968
51	0.393	69.992
52	0.430	70.958
53	0.468	71.913
54	0.505	72.881
55	0.544	73.862
56	0.583	74.841
57	0.622	75.819
58	0.663	76.752
59	0.704	77.644
60	0.747	78.541
61	0.790	79.446
62	0.835	80.359
63	0.881	81.286
64	0.929	82.116
65	0.979	83.044
66	1.030	83.908
67	1.084	84.763
68	1.140	85.626
69	1.199	86.426
70	1.260	87.268
71	1.325	88.100

Raw Score	Ability	Scale Score
72	1.394	88.899
73	1.466	89.706
74	1.543	90.523
75	1.626	91.281
76	1.714	92.014
77	1.810	92.760
78	1.914	93.519
79	2.028	94.293
80	2.155	94.968
81	2.298	95.655
82	2.461	96.359
83	2.653	97.017
84	2.886	97.637
85	3.185	98.265
86	3.601	98.890
87	4.306	99.456
88	5.518	100.000