# New York State Regents Examination in

# Algebra I (Common Core)

# and

# English Language Arts (Common Core)

## Standard Setting Technical Report

Prepared for the New York State Department of Education

by

Data Recognition Corporation

February 4, 2015

## Table of Contents

## List of Tables

## List of Figures

# Executive Summary

The standard setting process for the New York State Regents Examinations in Algebra I (Common Core) and English Language Arts (Common Core) consisted of two events: the Performance Level Description Development meeting and the Standard Setting meeting. The primary goal for these meetings was to establish cut scores that operationally define the five performance levels: Level 1, Level 2, Level 3, Level 4, and Level 5. The performance level designations will be used by local, state, and federal accountability programs and are central to communicating with parents, teachers, and the public. This document provides a detailed description of the activities held at each meeting.

On February 10, 2014, the Performance Level Description Development meeting was conducted in Albany, New York. The focus of this meeting was the development of performance level descriptions (PLDs), which describe the specific knowledge and skills of students at each level of performance. Each PLD is designed to describe the range of students at that performance level and is used in the subsequent standard setting meeting.

On June 16 and 17, 2014, a Standard Setting meeting was held. The purpose of this meeting was to identify four cut scores that distinguish the five levels of performance on the New York State Regents Examinations in Algebra I (Common Core) and English Language Arts (Common Core). Using the PLDs articulated in February, panelists followed the Bookmark standard setting procedure, which resulted in cut score recommendations that were brought to the New York State Education Department (NYSED).

In this technical report, panelists, materials, methodologies, and results for each meeting are presented for the New York State Regents Examinations in Algebra I (Common Core) and English Language Arts (Common Core). A preliminary summary of standard setting activities was presented to the NYSED the day following the standard setting meeting. This report provides final results and additional details documenting the standard setting process and the results.

# Performance Level Description Development Meeting

On February 10, 2014, the New York State Education Department (NYSED) conducted a Performance Level Description Development meeting in Albany, New York. The meeting was convened to articulate the knowledge and skills expected of students at each level of performance, consistent with the policy vision set forth by the NYSED.

At this meeting, panelists were asked to review policy guidelines and content standards to generate knowledge and skill statements that describe a student at a specific level of performance. An initial training session regarding the overall process of standard setting and the specific role that PLDs play within standard setting was provided by the lead psychometrician. After the initial training session, committee members were split into exam-specific groups (i.e., Algebra I and English Language Arts) for additional training. Using the NYSED-approved training materials, educators were trained to deconstruct the content standards in terms of cognitive complexity and then align these different aspects of the content standards with specific levels of performance. Educators were trained to adhere carefully to the cognitive alignment (e.g., depth of knowledge, cognitive complexity, and range of skills) with the State's content standards, while keeping the policy decisions in mind.

## Panelists

A total of 45 educators attended the meeting. Twenty-one of these educators were subject-matter experts in English language arts and 24 of these educators were subject-matter experts in mathematics. The participants were recruited by the NYSED.

Prior to the meetings, a set of table leaders for each subject area were identified. Table leaders serve to help facilitate the process and help keep participants focused on the tasks. Table leaders arrived the evening before the beginning of the PLD meeting for training. Table-leader training consisted of an overview of the meeting agenda and the role of PLDs in standard setting. The overview was followed by detailed training on the steps required to deconstruct the content standards and generate PLDs.

## Method and Procedure

The PLD meeting began with introductions of NYSED staff and the facilitators. The lead psychometrician provided an opening training session that included an overview of standard setting and the process by which cut scores are determined. The policy decisions associated with the standard setting, including the number of performance levels (five) and the associated labels for these levels, were reviewed. An explanation

of how the PLDs document the expected knowledge and skills associated with each performance level was then provided. The role that the PLDs play in establishing the cut scores between each level of performance was described.

Panelists were then split into subject-specific groups where Data Recognition Corporation (DRC) content experts described the development of the PLDs, which would use the four-step process described below.

**Step 1. Review and Internalize Policy PLDs**
Panelists reviewed the statements that describe the policy vision that the NYSED has for the Regents exam performance levels. Panelists were instructed to use this vision as the context for preparing the PLDs. Throughout the day, DRC facilitators reminded participants to recall the policy expressed in these statements.

**Step 2. Evaluate Content Standards in Terms of Cognitive Complexity**
DRC facilitators walked through several examples of how to deconstruct the content standards in terms of the different levels of cognitive complexity until all participants were oriented to this task. The content standards consist of statements that describe knowledge, skills, and performance, which range in terms of cognitive complexity; these statements are similar to the kinds of statements that are frequently included in PLDs. More importantly, the content standards include statements of basic skills that students would display, as well as other skills that require more advanced cognitive processing by students. The articulation of different levels of cognitive complexity reflected in content standards provides the basis for the development of the PLDs.

**Step 3. Align Levels of Cognitive Complexity with Performance Levels**
After a thorough evaluation of each content standard, participants identified specific statements that describe different levels of cognitive complexity for various knowledge and skills specified within the content standards. Participants then classified each of these statements in terms of the different performance levels. That is, each statement that expressed some level of cognitive complexity within a content standard was categorized into the different performance levels (e.g., Level 1, Level 2, Level 3, Level 4, or Level 5). Some statements were clearly aligned with a given performance level. Other aspects of the content standards did not fall cleanly into a specific PLD; these reflected a transition point from one performance level to another.

DRC facilitators showed participants how to use a coding scheme to reflect which statements clearly align with specific levels of performance and which statements reflect transition points.

**Step 4: Prepare Draft PLDs**

The classification of the cognitive complexity of the content standards and associated skills in terms of the performance levels provided a straightforward framework that enabled participants to create initial drafts of the Range and Threshold PLDs. Skills from the content standards that are clearly associated with a specific performance level provide insight into what constitutes the performance level for all students in that level (i.e., Range PLD). Similarly, the skills that span adjacent performance levels and are difficult to categorize provide insight into what constitutes the transition between levels of performance (i.e., Threshold PLD).

Upon completion of the subject-specific training, each group of panelists was divided into small teams. Each team was assigned several content standards. Participants then deconstructed each content standard and identified the different statements about students being made in the standard in terms of cognitive complexity. Particular aspects of the content standards that were easily classified into a given performance level essentially formed the basis of the PLDs. Working in these small groups, participants produced drafts of the PLDs. At the conclusion of this activity, the draft PLDs were shared across groups for cross-group discussion and revision. When teams encountered knowledge and skills that were difficult to classify into a particular level of performance, panelists were asked to document such challenges as potentially indicative of transitional knowledge and skills that demarcated the threshold between performance levels.

The drafts produced represent the participants' conceptualization of the range of students in each performance level. After the meeting, DRC, working with NYSED, reviewed and revised the PLDs for clarity and consistency. The end result of this meeting was a set of PLDs that clearly defines the level of knowledge and skill necessary for each performance level.

## Results

Copies of the final PLDs developed at this meeting and revised by DRC and NYSED are provided in Appendix A and B for Algebra I and English language arts, respectively. These PLDs were used in the subsequent standard setting meeting.

# Bookmark Standard Setting Meeting

Two committees of New York State educators were convened on June 16–17, 2014, in Albany, New York, to recommend performance standards for the New York State Regents Examination in Algebra I (Common Core) and English Language Arts (Common Core). The Algebra I committee consisted of 35 educators and the English Language Arts committee consisted of 31 educators.

DRC followed a Bookmark procedure similar to the method originally defined by Lewis, Mitzel, and Green (1996). The Bookmark procedure is arguably the standard setting method that is most philosophically consistent with criterion-referenced, standards-based assessments like the Regents Examinations. This method is discussed in detail within the Methods section of this document.

## Panelists

All panelists voluntarily provided demographic information. Seven table leaders for each subject area were identified from the pool of panelists by NYSED and DRC. Table 1 provides a summary of gender representation across both committees. Table 2 presents a summary of ethnic representation of panelists. Table 3 provides a geographic summary of both committees. Table 4 provides a summary of the educational background of each committee.

**Table 1. Number of Male and Female Panelists in Committees**

| | Algebra I | English Language Arts |
|---|---|---|
| **Female** | 15 | 22 |
| **Male** | 20 | 9 |

**Table 2. Ethnic Composition of the Panelists in Committees**

| | Algebra I | English Language Arts |
|---|---|---|
| **White** | 27 | 22 |
| **Hispanic** | 3 | 0 |
| **African American** | 2 | 3 |
| **Asian** | 2 | 2 |
| **Native American** | 1 | 0 |
| **Missing Information** | 0 | 4 |

**Table 3. Geographic Locations of Panelists for Standard Setting**

| | Algebra I | English Language Arts |
|---|---|---|
| **Big 4 Cities** | 5 | 7 |
| **Capital Region** | 3 | 1 |
| **Central NY** | 6 | 4 |
| **Hudson Valley** | 3 | 1 |
| **Long Island** | 3 | 4 |
| **North Country** | 2 | 3 |
| **NYC** | 8 | 5 |
| **Western NY** | 5 | 6 |

**Table 4. Education Roles of Panelists for Standard Setting**

| | Algebra I | English Language Arts |
|---|---|---|
| **Classroom Teachers (Includes Special Population Educators)** | 18 | 15 |
| **Higher Education** | 6 | 5 |
| **Curriculum** | 4 | 6 |
| **School Administration** | 7 | 5 |

## Method

The Bookmark procedure was used to determine recommended cut scores for distinguishing performance on the Regents Examinations in Algebra I (Common Core) and English Language Arts (Common Core). The Bookmark procedure is an *item-based* mapping method. It requires panelists to determine which items can be successfully answered two-thirds of the time by students at the boundaries between adjacent performance levels. The scaled difficulty value that separates the items that students at the threshold can answer two-thirds of the time from those they cannot answer is the cut score used to distinguish student performance into performance levels. The procedure typically involves three components: PLDs, ordered item booklets (OIBs), and item maps. Each component is briefly described below.

### Performance Level Descriptions (PLDs)

PLDs are the foundation of standard setting activities because they provide the explanation of how student performance differs from one performance level to the next (Perie, 2008). In fact, PLDs are of such influence that in a well-run standard setting workshop, they determine the rigor of the performance and thus the decisions made about placement of the cut score (Perie, Hess, & Gong, 2008). Moreover, PLDs serve multiple purposes in terms of communicating policy, facilitating test development, guiding standard setting, and providing score interpretation. Three types of PLDs (Egan, Schneider & Ferrara, 2012) are used as an organizing framework for developing PLDs for the Regents exams:

- Policy PLD statements—Policy statements are designed to capture the vision that an agency has for its performance levels. They specify the number of levels and the names for each level and summarize the expectations of student performance for a testing program, including any policy decisions being made at particular levels.
- Range PLDs—Range PLDs are designed to describe the full range of performance for examinees at a given performance level. In other words, Range PLDs describe the aspects of test content or specific items that are indicative of a range of students at a specific performance level. Range PLDs can be informative in guiding item and test development as a testing program evolves. Range PLDs are also critical in that they are used to articulate a key component for standard setting, the Threshold PLDs. Note that the PLD meeting held in February was designed to produce Range PLDs.
- Threshold PLDs—Threshold PLDs (also known as Target PLDs) are designed to articulate the transition points between the different ranges of performance defined by the Range PLDs. Specifically, Threshold PLDs describe the knowledge and skills a student at the border between performance levels should know and be able to do. Because they articulate the specific performance that distinguishes levels of performance, Threshold PLDs are typically used in standard setting activities. Range PLDs and Threshold PLDs are clearly interdependent, which necessitates that they be developed in conjunction with each other.

Ultimately, PLDs are designed to describe the competencies of each performance level in relation to grade-level content standards while concurrently addressing their different functions. PLDs play a critical role in the standard setting process.

### Ordered Item Booklet (OIB)

Within the Bookmark procedure, participants review the OIB, which is a book of the items from the operational test that have been ordered from easiest to hardest. Multiple-choice items appear along with their answer choices in the OIB, with each item printed on a single page. Constructed-response items appear along with their scoring rubrics multiple times because each item is worth multiple points. Specifically, each non-zero score point for a constructed-response item is presented in the OIB.

To sequence the items from easiest to hardest, a difficulty estimate for each item must be estimated. Difficulty estimates to support Bookmark standard setting are typically obtained using item response theory models that express item difficulty and student achievement on the same reporting scale. The Rasch measurement model (Rasch, 1960, 1980) was used to estimate item difficulty for selected-response items on the Regents exams. The Partial-Credit model (Andrich, 1978) was used to estimate item difficulty estimates for each score point for constructed-response models. These models are described in more detail below.

#### *Rasch and Partial Credit Models*

The Rasch model applicable to dichotomously scored items (MC) can be expressed in the most familiar form of the model:

1. $$\Pr(correct \mid \beta_n, \delta_i) = \frac{e^{\beta_n - \delta_i}}{1 + e^{\beta_n - \delta_i}}.$$

The probability of success for a person with ability $\beta_n$ on an item with difficulty $\delta_i$ is determined by the difference between the ability of the student and the difficulty of the item.

With the partial-credit model used for open-ended items, $\pi_{nik}$ is the probability that person *n* will score *k* on item *i*. Then, the *first* threshold for item *i* is a score of *1* rather than a *0*, which is the conditional probability of a score of 1, given a score of 0 or 1:

2. $$\Phi_{1ni} = \frac{\pi_{ni1}}{\pi_{ni0} + \pi_{ni1}} = \frac{\exp(\beta_n - \delta_{i1})}{1 + \exp(\beta_n - \delta_{i1})},$$

where $\beta_n$ is the ability of person *n* and $\delta_{i1}$ is the difficulty of the first threshold. The expression on the right is identical to the Rasch model for a dichotomous item. The only differences are that now $\pi_{ni0} + \pi_{ni1} < 1$, since more than two response

categories are provided, and $\delta_{i1}$, while still the difficulty of the first threshold for item *i*, is not the difficulty of the only threshold for the item.

For example, with a three-point open-ended item, where a person *n* must achieve one of the four possible scores (0, 1, 2, or 3) on item *i*,

3. $$\pi_{ni0} + \pi_{ni1} + \pi_{ni2} + \pi_{ni3} = 1 \quad .$$

These relationships can be rearranged to obtain one general expression for the probability of person *n* scoring *x* on item *i*:

4. $$\pi_{nix} = \frac{\exp \sum_{j=1}^{x} (\beta_n - \delta_{ij})}{1 + \sum_{k=1}^{m_i} \exp \sum_{j=1}^{k} (\beta_n - \delta_{ij})}, \; x = 1,..., m_i$$

If the number of thresholds ($m_i$) is one, the summations in expression (4.) drop out and it reduces to expression 1.

Using the operational response data from a representative sample of test takers, item difficulty parameter *b* was calibrated using WINSTEPS. Within the Rasch model, the item difficulty estimate produced by WINSTEPS assumes a 0.50 response probability. However, in standard setting, item difficulty estimates are typically computed relative to a response probability of two-thirds (i.e., 0.67). For dichotomous items, this required adding a factor of 0.69315 to the item difficulty parameters obtained from WINSTEPS to account for the increased response probability.

To obtain difficulty values for each score point within a constructed-response item using a two-thirds response probability, it was necessary to estimate the ability level associated with getting each score point or above. That is, for a four-point item, the ability associated with the likelihood of achieving two points or greater two-thirds of the time, three points or greater, and four points are estimated. This computation is done algorithmically, using a procedure detailed in Cizek and Bunch (2007).

After all difficulty estimates associated with a two-thirds response probability were computed, the OIB was created by ordering items in sequence of the difficulty estimates. Tables 5 and 6 below include information about the operational test and the OIB. Note that each page of the OIB includes an annotation with the scaled difficulty estimate, key, and content standard.

**Table 5. Composition of Ordered Item Book: Algebra I**

| Part | Number of Items | Score point Range | Number of OIB Pages |
|---|---|---|---|
| Part 1 | 24 | 0–1 | 24 |
| Part 2 | 8 | 0–2 | 16 |
| Part 3 | 4 | 0–4 | 16 |
| Part 4 | 1 | 0–6 | 6 |
| **TOTAL** | **37** | **-** | **62** |

**Table 6. Composition of Ordered Item Book: English Language Arts**

| Operational Test Section | Number of Items | Score point Range | Number of OIB Pages |
|---|---|---|---|
| Part 1 | 24 | 0–1 | 24 |
| Part 2 | 1 | 0–6 | 6 |
| Part 3 | 1 | 0–4 | 4 |
| **TOTAL** | **26** | **-** | **34** |

### Item Map

The item map provides a corresponding document to the OIB. Essentially, the item map consists of information extracted from the OIB and presented in tabular form. The item map is presented with one row per item/point. The items/points are presented in difficulty sequence from easiest to hardest similar to the ordered item booklet. Each row includes the following information:

- Page number in OIB
- Original position on test form
- Content/standard identification
- Correct answer for selected-response items
- Score point and maximum score point for each constructed-response item
- Space for notes

### Bookmark Judgment Task

During a standard setting using the Bookmark procedure, panelists review the test items ordered by difficulty from easiest to hardest. Item by item, panelists are asked to judge the likelihood that a student at the threshold between performance levels (e.g., the student who is just barely at Level 4) would answer the question correctly or achieve a particular score on a constructed-response item two-thirds of the time. The panelists are reminded throughout the process to use the policy guidance and the associated PLDs as the frame of reference. Panelists have typically been given

an orienting task to become very familiar with the policy decisions and range PLDs in order to help articulate the knowledge and skills of students at the threshold. Panelists review the OIB information and make judgments for one PLD at a time in a specific sequence.

The specific judgment task with the Bookmark method requires panelists to evaluate whether students at the threshold of a PLD (e.g., just barely at level 4) have a chance of answering an item correctly or getting a particular score on a constructed-response item at a given response probability. The chance of answering (i.e., the response probability) that is typically used within Bookmark standard setting is two-thirds. Panelists are asked to look at each item and evaluate whether a student at the threshold has at least a two-thirds chance of getting this item correct. For constructed-response items, the judgment task is whether the student at the threshold has at least a two-thirds chance of achieving a certain number of points or higher on that item.

Panelists are instructed to move through the OIB, read each page/item in sequence, and evaluate the knowledge and skills as described by the PLDs that are required to respond to the item correctly (or to get the score point). Panelists are asked to identify the location in the ordered item book where the likelihood for a student at a given threshold to get an item right drops below the response probability of two-thirds. Panelists are asked to place a bookmark between the two items, marking the location where this transition occurs for this given threshold. Panelists begin the process again for the next threshold until all thresholds have been bookmarked. This process is repeated over multiple rounds, with feedback after each round.

After each round, panelists have bookmarked pages that identify where in the OIB they feel each transition from one performance level to another is located. Given that each page within the OIB has an associated difficulty estimate expressed on a common metric, panelists have identified a cut score that can be used to distinguish student performance into two performance levels. Bookmark placements are translated back into the scale of measurement used to estimate item difficulties. The median of these difficulty estimates provided by the panelists is the recommended cut score for a given performance level.

## Data

Data used to support these meetings were obtained from representative samples of students who had been administered the Regents exams immediately prior to the standard setting meetings. The samples were drawn to be representative of the typical population taking these Regents exams during a June administration. In order to expedite the production of the standard setting materials, a representative

sample was selected in advance and processed ahead of remaining state materials. Item difficulty values, order item sequence, item maps, and impact data shown to panelists used at the standard setting were all compiled using the data from this representative sample.

A preliminary sample was identified, using test enrollment data with a series of stratification values that included: gender, ethnicity, English language learner (ELL) status, student with disabilities (SWD) status, socio-economic status, need/resource capacity (NRC) category, and previous performance on the applicable Regents Examination (i.e., Integrated Algebra or Comprehensive English). Schools identified as being included in the sample received different answer documents for expedited processing by DRC. Some minor adjustments to the preliminary sample were made to account for differences between enrollment information and actual test administrations.

Summary statistics for the sample versus the population of a typical June administration, June 2013 in this case, are reported in Tables 7 and 8 for Algebra I and English language arts, respectively. Note the differences between the sample selected and the typical populations taking the Regents exams are negligible, suggesting that the information presented to standard setting panelists was well estimated.

## Table 7. Sample vs. Population Summary, Algebra I

| | | Population | | Sample (10919 Students) | | |
|---|---|---|---|---|---|---|
| | | N | Pct. | N | Pct. | Pct. Diff |
| ETHNICITY | Asian | 20601 | 8.3 | 850 | 7.8 | -0.5 |
| | Black | 48078 | 19.4 | 2179 | 20.0 | 0.5 |
| | Hispanic | 58455 | 23.6 | 2492 | 22.8 | -0.8 |
| | American Indian / Native | 1224 | 0.5 | 30 | 0.3 | -0.2 |
| | Multiracial | 2258 | 0.9 | 63 | 0.6 | -0.3 |
| | Pacific Islander | 521 | 0.2 | 17 | 0.2 | -0.1 |
| | White | 116370 | 47.0 | 5288 | 48.4 | 1.4 |
| LANGUAGE | Chinese | 58 | 0.0 | | | |
| | English | 247049 | 99.8 | 10912 | 99.9 | 0.1 |
| | Haitian Creole | 14 | 0.0 | | | |
| | Korean | 5 | 0.0 | | | |
| | Russian | 16 | 0.0 | 1 | 0.0 | 0.0 |
| | Spanish | 365 | 0.1 | 6 | 0.1 | -0.1 |
| ENGLISH LANGUAGE LEARNER (ELL) | N | 229462 | 92.7 | 10334 | 94.6 | 1.9 |
| | Y | 18045 | 7.3 | 585 | 5.4 | -1.9 |
| NEED/RESOURCE CAPACITY | High Need: New York City | 87207 | 35.2 | 3938 | 36.1 | 0.8 |
| | High Need: Large Cities | 9754 | 3.9 | 385 | 3.5 | -0.4 |
| | High Need: Urban/Suburban | 16914 | 6.8 | 712 | 6.5 | -0.3 |
| | High Need: Rural | 11954 | 4.8 | 439 | 4.0 | -0.8 |
| | Average Need | 65207 | 26.3 | 3093 | 28.3 | 2.0 |
| | Low Need | 33980 | 13.7 | 1581 | 14.5 | 0.8 |
| | Charter School | 4374 | 1.8 | 195 | 1.8 | 0.0 |
| | Non-Public School | 18117 | 7.3 | 576 | 5.3 | -2.0 |
| POVERTY | N | 127955 | 51.7 | 5729 | 52.5 | 0.8 |
| | Y | 119552 | 48.3 | 5190 | 47.5 | -0.8 |
| GENDER | F | 123720 | 50.0 | 5537 | 50.7 | 0.7 |
| | M | 123787 | 50.0 | 5382 | 49.3 | -0.7 |
| STUDENT WITH DISABILITIES | N | 216026 | 87.3 | 9620 | 88.1 | 0.8 |
| | Y | 31481 | 12.7 | 1299 | 11.9 | -0.8 |

## Table 8. Sample vs. Population Summary, English Language Arts

| | | Population | | Sample (6999 Students) | | |
|---|---|---|---|---|---|---|
| | | N | Pct. | N | Pct. | Pct. Diff |
| ETHNICITY | Asian | 16422 | 9.2 | 568 | 8.1 | -1.1 |
| | Black | 30962 | 17.4 | 1297 | 18.5 | 1.1 |
| | Hispanic | 37688 | 21.2 | 1403 | 20.0 | -1.1 |
| | American Indian / Native | 809 | 0.5 | 25 | 0.4 | -0.1 |
| | Multiracial | 1036 | 0.6 | 30 | 0.4 | -0.2 |
| | Pacific Islander | 331 | 0.2 | 10 | 0.1 | 0.0 |
| | White | 90722 | 51.0 | 3666 | 52.4 | 1.4 |
| LANGUAGE | Chinese | 4 | 0.0 | | | |
| | English | 177958 | 100.0 | 6999 | 100.0 | 0.0 |
| | Haitian Creole | 8 | 0.0 | | | |
| ENGLISH LANGUAGE LEARNER (ELL) | Korean | 164299 | 92.3 | 6596 | 94.2 | 1.9 |
| | Russian | 13671 | 7.7 | 403 | 5.8 | -1.9 |
| NEED/RESOURCE CAPACITY | Spanish | 60898 | 34.2 | 2525 | 36.1 | 1.9 |
| | N | 4923 | 2.8 | 190 | 2.7 | -0.1 |
| | Y | 9903 | 5.6 | 370 | 5.3 | -0.3 |
| | High Need: New York City | 9228 | 5.2 | 406 | 5.8 | 0.6 |
| | High Need: Large Cities | 50558 | 28.4 | 2221 | 31.7 | 3.3 |
| | High Need: Urban/Suburban | 28263 | 15.9 | 832 | 11.9 | -4.0 |
| | High Need: Rural | 2232 | 1.3 | 93 | 1.3 | 0.1 |
| | Average Need | 11965 | 6.7 | 362 | 5.2 | -1.6 |
| POVERTY | N | 101129 | 56.8 | 3909 | 55.9 | -1.0 |
| | Y | 76841 | 43.2 | 3090 | 44.1 | 1.0 |
| GENDER | F | 87779 | 49.3 | 3482 | 49.7 | 0.4 |
| | M | 90191 | 50.7 | 3517 | 50.3 | -0.4 |
| STUDENT WITH DISABILITIES | N | 156789 | 88.1 | 6203 | 88.6 | 0.5 |
| | Y | 21181 | 11.9 | 796 | 11.4 | -0.5 |

## Procedure

The standard setting was completed on June 16 and 17, 2014. Prior to arriving at the meeting, all panelists were provided subject-specific pre-meeting work designed to help articulate the knowledge and skills of students at the threshold between performance levels. This work was collected at the beginning of the meeting and compiled for subsequent use during the standard setting. Copies of the pre-meeting assignment are provided in Appendix C. The agenda for the standard setting meeting can be found in Appendix D.

Table leaders arrived the evening before the beginning of the standard setting meeting for training. Table-leader training consisted of an overview of the meeting agenda and the Bookmark procedure. Samples of materials provided for the standard setting were presented, and the role of table leaders was reviewed. Table leaders were to facilitate discussion and help participants stay focused at specific stages during the standard setting meeting.

After the greetings and initial introductions, the Commissioner of Education provided opening remarks and set the context for the meeting. A highlight of his presentation was an overview of the policy decisions associated with each performance level. These are shown below in Figure 1.

| **Performance Levels on Common Core Regents Exams** |
|---|
| **Level 5: Exceeds Common Core expectations** |
| **Level 4: Meets Common Core expectations (First required for Regents Diploma purposes with the Class of 2022)** |
| **Level 3: Partially meets Common Core expectations (Required for current Regents Diploma purposes. We expect comparable percentages of students to attain Level 3 or above as do students who pass current Regents Exams (2005 Standards) with a score of 65 or above)** |
| **Level 2 (Safety Net): Partially meets Common Core expectations (Required for Local Diploma purposes. We expect comparable percentages of students to attain Level 2 or above as do students who pass current Regents Exams (2005 Standards) with a score of 55 or above)** |
| **Level 1: Does not demonstrate Knowledge and Skills for Level 2** |

**Figure 1. Policy Statements for Performance Levels**

Following the Commissioner's remarks, DRC provided an overview of the standard setting methodology. The major components of the Bookmark procedure were discussed in detail, including the PLDs and the OIB and its associated item map. Two procedures to be implemented within the Bookmark context were presented to the panelists.

1. Given the policy decision to hold the percentage of students at Level 3 and above as well as Level 2 and above to similar levels as those obtained in the previous Regents Examinations (see Figure 1), a policy validation exercise would be conducted. In particular, the bookmark locations that maintain consistency with the previous percentages would be pre-identified for panelists. Panelists would be asked to choose one of the pre-identified bookmark locations, consistent with the policy directive. Feedback on the bookmark placement would be gathered. This exercise would be completed as a single activity, and recommended cut scores for these two levels would be incorporated into the subsequent standard setting activity.

2. For the Level 4 and Level 5 cut scores, a traditional Bookmark standard setting procedure would be implemented. Results from the first activity would be incorporated so that panelists would see impact data for all performance levels.

At the conclusion of the opening session and large group training, panelists moved into subject-specific groups. There were 35 educators for Algebra I and 31 educators for English language arts; each educator was pre-assigned to one of seven tables within each subject room. A table leader had also been pre-assigned to each table.

Following a break, panelists reviewed the test. The goal of the test review was for panelists to get a sense of the student experience in taking the Regents Examination and to preview the test items to be used in the standard setting. A subset of items was identified for panelists to answer and score to ensure that the activity was not cursory. Panelists were instructed to review the remaining items.

Following the test review, DRC content facilitators led a discussion of the pre-meeting assignment for the Level 4 cut score. This assignment asked for knowledge and skill statements describing students at the thresholds. Each table, working with several assigned domains of content, identified knowledge and skill statements that best described students at the thresholds. The synthesis of these statements across tables constituted the threshold PLD and was designed to provide a frame of reference for the Bookmark task. Panelists, working in groups, repeated this process for Level 5.

Subject-specific training in the Bookmark standard setting method was then provided. The critical objective of the training was to ensure that the panelists understood the task being presented to them. Components of the training for panelists included a discussion of their role in the process, a detailed description of all steps in the Bookmark method, and practice exercises that contained publically available New York State assessment items. The point of the practice exercises was to provide hands-on experience with the tasks and allow panelists to address additional questions that they might have once they had practiced. A copy of the training slides is provided in Appendix E. Once training was completed, a survey was taken to be sure that all panelists were ready to proceed. All panelists indicated that they understood the task and were ready to proceed.

The policy verification task was first implemented for Level 2 and Level 3. For this task, the bookmark locations that resulted in equivalent passing rates relative to the previous Regent Examination were pre-identified. That is, a set of bookmark locations where the resulting percentage of students at Level 2 and above and Level 3 and above were identified. A color-coded item map provided the location of bookmark locations that would be consistent with the policy directives. Panelists were instructed to review the policy directives and the PLDs and identify which of the potential bookmark locations they would recommend. Panelists were reminded that the number of bookmark locations consistent with the state policy directives was relatively few and appeared early in the test book. Panelists completed a rating form to indicate their selected bookmark locations consistent with the state policy and completed a survey to demonstrate that they understood the policy verification task.

Once the policy verification was completed, the standard setting process for Level 4 and Level 5 was then started within each room. Three rounds were conducted. Each round is described below.

Round 1. Panelists were asked to identify the last item in the OIB that a threshold student at a given performance level would have a two-thirds chance of answering correctly. The bookmark location that panelists were to mark in the OIB was the last item that a student at the threshold could answer correctly two-thirds of the time; the student would not be expected to correctly answer the items later in the book. Panelists were asked to consider the knowledge and skills required to respond correctly to each progressively more difficult item. Panelists were reminded not to focus too much on a single item, but on the progression of items. Panelists were reminded that the OIBs were based on analysis of data selected from a representative sample from the June 2014 administration. It was emphasized that the work for this round was to be done individually.

Round 2. Table-level results from round 1 were provided to table leaders. Table-level results included the bookmark locations (i.e., pages selected by panelists) for each panelist and the median bookmark location for each performance level at the table. The panelists were asked to think about how similar their ratings were relative to the other panelists at their tables. Table leaders facilitated group discussion about differences/similarities, using the table level results. Panelists were reminded that consensus was not a requirement and that differences should be discussed in order to provide additional insight into why such differences existed. After the group discussion, panelists were given the opportunity to revise their bookmark placements in a subsequent round.

Round 3. Table-level results from round 2 were provided to table leaders. Table-level results included the bookmark locations (i.e., pages selected by panelists) for each panelist and the median bookmark location for each performance level at the table. The panelists were asked to think about how similar their ratings were relative to the other panelists at their tables. Table leaders facilitated group discussion about differences/similarities, using the table level results. Panelists were reminded that consensus was not a requirement and that differences should be discussed in order to provide additional insight into why such differences existed.

After table discussions were complete, the DRC facilitator presented table-level results as well as the room-level results to the full group. In particular, the median bookmark location for all tables, as well as the room-level median of table-level medians, was presented. Panelists were then invited to discuss the table-level and room-level results, comparing and contrasting differences between tables and providing their initial feedback regarding the room-level results.

Once discussion of the table-level and room-level bookmark locations was complete, impact data based on the representative sample were provided to panelists. Specifically, the percentages of students at the different levels of performance were provided to panelists. After this discussion was complete, panelists were given another opportunity to revise their bookmarks.

After round 3 rating and analysis were completed, each subject-area committee reconvened. The final recommendations for bookmark locations, as well as the associated impact data, were presented. Panelists were also invited to provide any additional feedback about the PLD documents.

## Results

Tables 9 through 11 provide summary information for all performance levels for Algebra I across all three rounds of standard setting. The median bookmarked page for each table and the associated median difficulty estimate are provided. The difficulty estimate is based on a two-thirds response probability and is expressed on the logit scale used within the Rasch model. The room-level summary, computed as the median of table-level medians, is also presented. Tables 12 through 14 provide the same information for English language arts. Because only one round was held for the policy verification of Level 2 and 3, that information is repeated throughout the tables so that the results across all four levels can be compared.

**Table 9. Median bookmarked pages, Algebra I, Round 1**

| | Level 1/2 | | Level 2/3 | | Level 3/4 | | Level 4/5 | |
|---|---|---|---|---|---|---|---|---|
| **Table** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** |
| **1** | 2 | -1.0155 | 7 | -0.4006 | 31 | 0.5692 | 46 | 1.3512 |
| **2** | 2 | -1.0155 | 6 | -0.5505 | 28.5 | 0.4905 | 50 | 1.7294 |
| **3** | 2 | -1.0155 | 5 | -0.6871 | 37 | 0.9497 | 56 | 2.0935 |
| **4** | 3 | -0.9048 | 7 | -0.4006 | 48 | 1.6382 | 59 | 2.4494 |
| **5** | 2 | -1.0155 | 6 | -0.5505 | 43 | 1.2349 | 53 | 1.8128 |
| **6** | 3 | -0.9048 | 7 | -0.4006 | 37 | 0.9497 | 52 | 1.7608 |
| **7** | 2 | -1.0155 | 6 | -0.5505 | 41 | 1.1557 | 51 | 1.7431 |
| **Room** | **2** | **-1.0155** | **6** | **-0.5505** | **37** | **0.9497** | **52** | **1.7608** |

**Table 10. Median bookmarked pages, Algebra I, Round 2**

| | Level 1/2 | | Level 2/3 | | Level 3/4 | | Level 4/5 | |
|---|---|---|---|---|---|---|---|---|
| **Table** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** |
| **1** | 2 | -1.0155 | 7 | -0.4006 | 32 | 0.5917 | 46 | 1.3512 |
| **2** | 2 | -1.0155 | 6 | -0.5505 | 27.5 | 0.4704 | 50 | 1.7294 |
| **3** | 2 | -1.0155 | 5 | -0.6871 | 37 | 0.9497 | 55 | 2.0476 |
| **4** | 3 | -0.9048 | 7 | -0.4006 | 46 | 1.3512 | 59 | 2.4494 |
| **5** | 2 | -1.0155 | 6 | -0.5505 | 38 | 1.0632 | 55 | 2.0476 |
| **6** | 3 | -0.9048 | 7 | -0.4006 | 41 | 1.1557 | 55 | 2.0476 |
| **7** | 2 | -1.0155 | 6 | -0.5505 | 38 | 1.0632 | 53 | 1.8128 |
| **Room** | **2** | **-1.0155** | **6** | **-0.5505** | **38** | **1.0632** | **55** | **2.0476** |

## Table 11. Median bookmarked pages, Algebra I, Round 3

| | Level 1/2 | | Level 2/3 | | Level 3/4 | | Level 4/5 | |
|---|---|---|---|---|---|---|---|---|
| Table | Median OIB Page | Logit | Median OIB Page | Logit | Median OIB Page | Logit | Median OIB Page | Logit |
| 1 | 2 | -1.0155 | 7 | -0.4006 | 31 | 0.5692 | 47 | 1.6281 |
| 2 | 2 | -1.0155 | 6 | -0.5505 | 33.5 | 0.6061 | 52.5 | 1.7608 |
| 3 | 2 | -1.0155 | 5 | -0.6871 | 38 | 1.0632 | 55 | 2.0476 |
| 4 | 3 | -0.9048 | 7 | -0.4006 | 46 | 1.3512 | 59 | 2.4494 |
| 5 | 2 | -1.0155 | 6 | -0.5505 | 32 | 0.5917 | 53 | 1.8128 |
| 6 | 3 | -0.9048 | 7 | -0.4006 | 37 | 0.9497 | 55 | 2.0476 |
| 7 | 2 | -1.0155 | 6 | -0.5505 | 34 | 0.626 | 52 | 1.7608 |
| **Room** | **2** | **-1.0155** | **6** | **-0.5505** | **34** | **0.626** | **53** | **1.8128** |

## Table 12. Median bookmarked pages, English Language Arts, Round 1

| | Level 1/2 | | Level 2/3 | | Level 3/4 | | Level 4/5 | |
|---|---|---|---|---|---|---|---|---|
| Table | Median OIB Page | Logit | Median OIB Page | Logit | Median OIB Page | Logit | Median OIB Page | Logit |
| 1 | 5 | -0.5192 | 9 | -0.0814 | 23 | 0.9105 | 30 | 1.768 |
| 2 | 6 | -0.4571 | 8 | -0.225 | 16 | 0.6583 | 28 | 1.4134 |
| 3 | 5 | -0.5192 | 8 | -0.225 | 21 | 0.7825 | 27 | 1.345 |
| 4 | 6 | -0.4571 | 9 | -0.0814 | 19 | 0.7181 | 28 | 1.4134 |
| 5 | 5 | -0.5192 | 9 | -0.0814 | 22 | 0.9035 | 29 | 1.5733 |
| 6 | 7 | -0.3962 | 9 | -0.0814 | 17 | 0.6765 | 29 | 1.5733 |
| 7 | 6 | -0.4571 | 9 | -0.0814 | 17 | 0.6765 | 29 | 1.5733 |
| **Room** | **6** | **-0.4571** | **9** | **-0.0814** | **19** | **0.7181** | **29** | **1.5733** |

## Table 13. Median bookmarked pages, English Language Arts, Round 2

| | Level 1/2 | | Level 2/3 | | Level 3/4 | | Level 4/5 | |
|---|---|---|---|---|---|---|---|---|
| Table | Median OIB Page | Logit | Median OIB Page | Logit | Median OIB Page | Logit | Median OIB Page | Logit |
| 1 | 5 | -0.5192 | 9 | -0.0814 | 15 | 0.6174 | 30 | 1.768 |
| 2 | 6 | -0.4571 | 8 | -0.225 | 13 | 0.4629 | 29 | 1.5733 |
| 3 | 5 | -0.5192 | 8 | -0.225 | 21 | 0.7825 | 28 | 1.4134 |
| 4 | 6 | -0.4571 | 9 | -0.0814 | 18 | 0.6816 | 28 | 1.4134 |
| 5 | 5 | -0.5192 | 9 | -0.0814 | 27 | 1.345 | 31 | 1.881 |
| 6 | 7 | -0.3962 | 9 | -0.0814 | 17 | 0.6765 | 28 | 1.4134 |
| 7 | 6 | -0.4571 | 9 | -0.0814 | 16 | 0.6583 | 27 | 1.345 |
| **Room** | **6** | **-0.4571** | **9** | **-0.0814** | **17** | **0.6765** | **28** | **1.4134** |

**Table 14. Median bookmarked pages, English Language Arts, Round 3**

| | Level 1/2 | | Level 2/3 | | Level 3/4 | | Level 4/5 | |
|---|---|---|---|---|---|---|---|---|
| **Table** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** | **Median OIB Page** | **Logit** |
| **1** | 5 | -0.5192 | 9 | -0.0814 | 15 | 0.6174 | 30 | 1.768 |
| **2** | 6 | -0.4571 | 8 | -0.225 | 14 | 0.4806 | 29 | 1.5733 |
| **3** | 5 | -0.5192 | 8 | -0.225 | 21 | 0.7825 | 28 | 1.4134 |
| **4** | 6 | -0.4571 | 9 | -0.0814 | 18 | 0.6816 | 28 | 1.4134 |
| **5** | 5 | -0.5192 | 9 | -0.0814 | 19 | 0.7181 | 29 | 1.5733 |
| **6** | 7 | -0.3962 | 9 | -0.0814 | 17 | 0.6765 | 28 | 1.4134 |
| **7** | 6 | -0.4571 | 9 | -0.0814 | 18 | 0.6816 | 28 | 1.4134 |
| **Room** | **6** | **-0.4571** | **9** | **-0.0814** | **18** | **0.6816** | **28** | **1.4134** |

Comparisons between rounds also indicate that the cut score recommendation did not fluctuate much. Impact data were presented at the beginning of round 3. The additional information had a negligible effect on the subsequent recommendations that the group made in round 3.

Figures 2 through 5 represent the percentage of students in each performance level, using the cut score recommendation after rounds 2 and 3 for Algebra I and English language arts, respectively. The impact data were based on a representative sample of students who were administered the 2014 Regents Examination. Note that these were the figures that were used to present impact data to panelists.

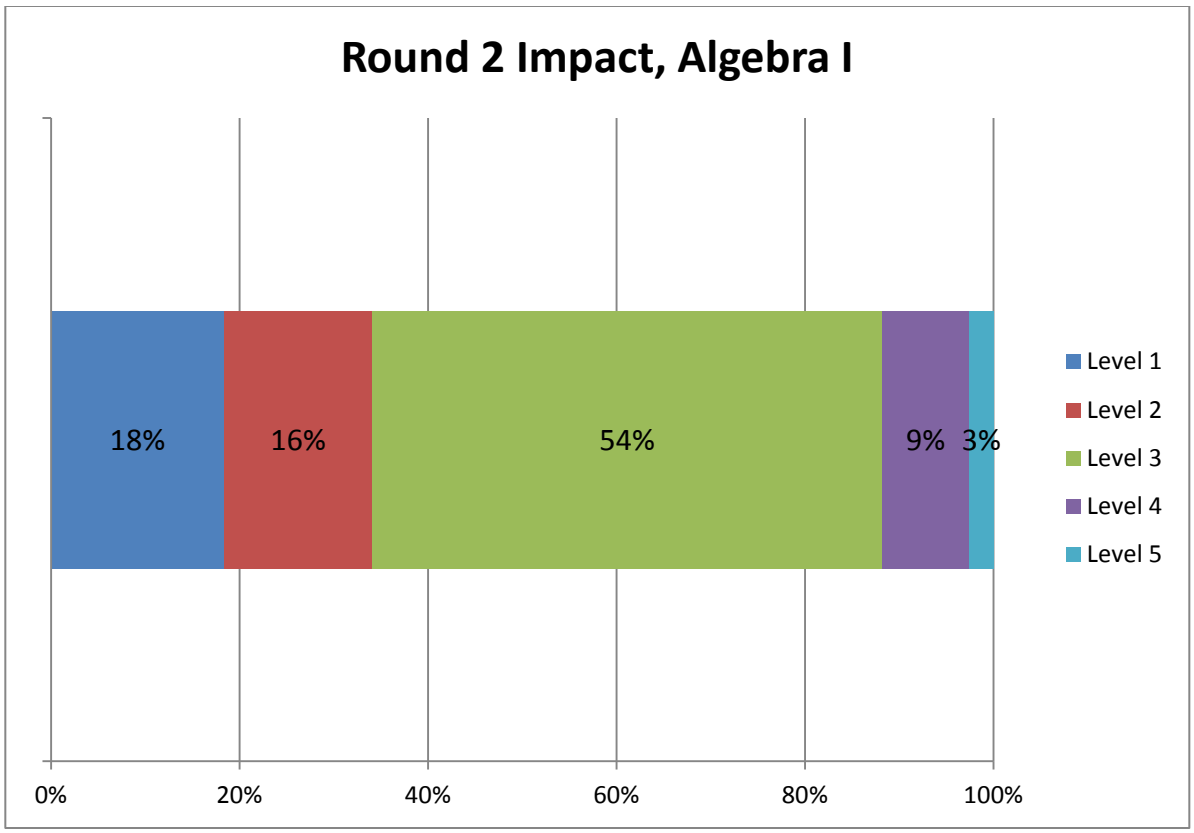



**Figure 2. Percentage of Students in Performance Levels, Algebra I, Round 2.**

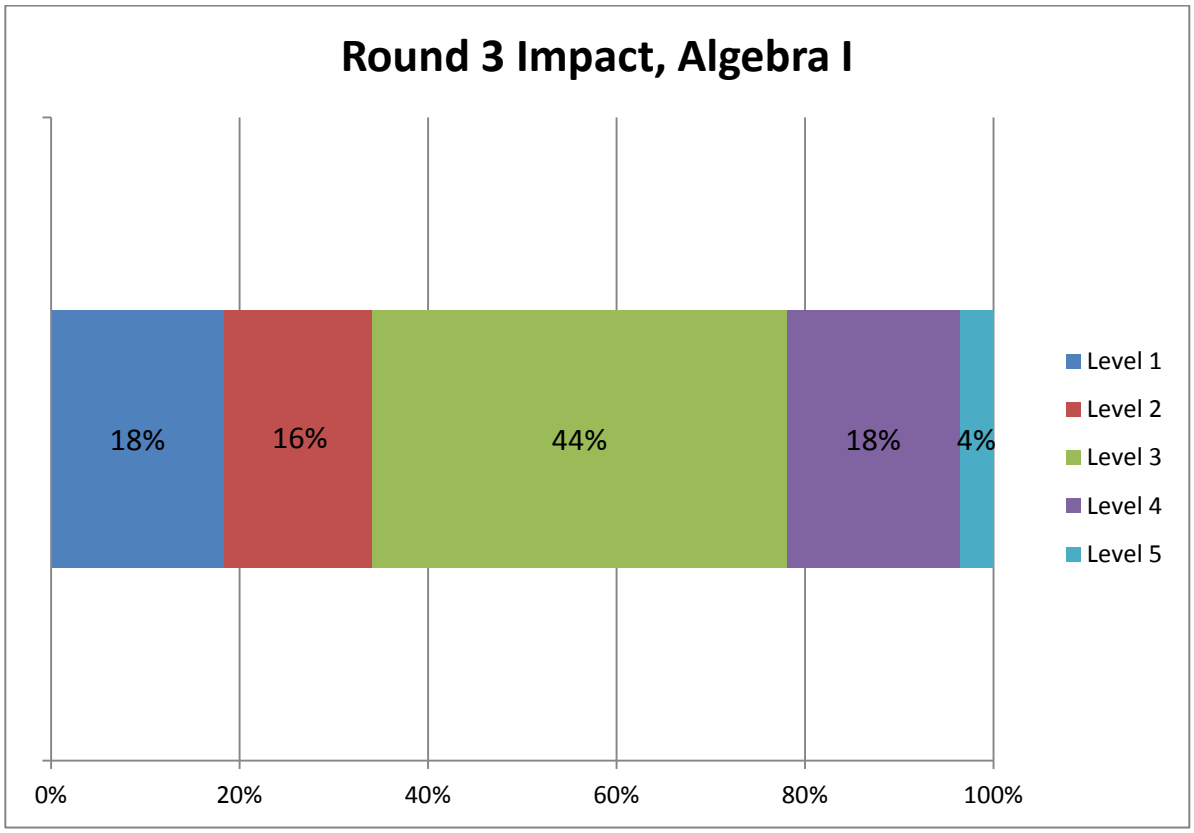



**Figure 3. Percentage of Students in Performance Levels, Algebra I, Round 3.**

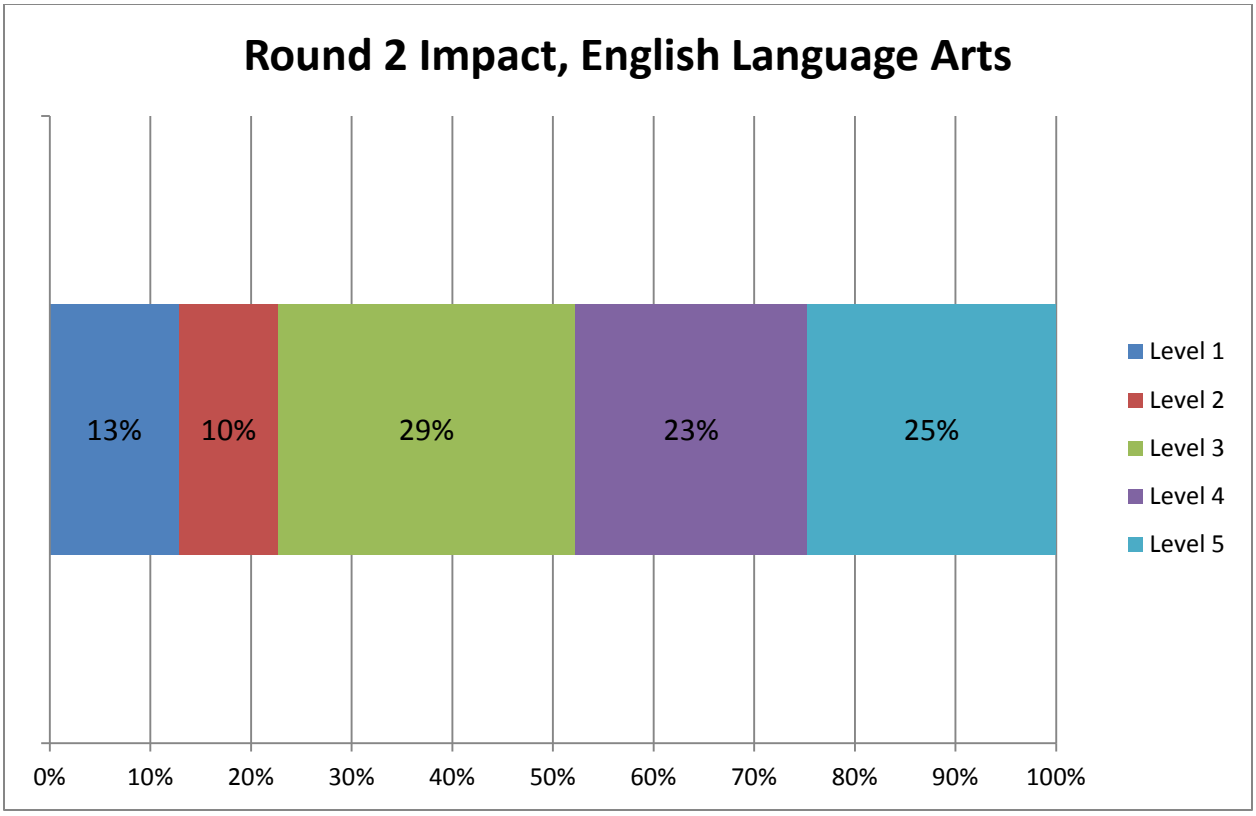



**Figure 4. Percentage of Students in Performance Levels, English Language Arts, Round 2.**

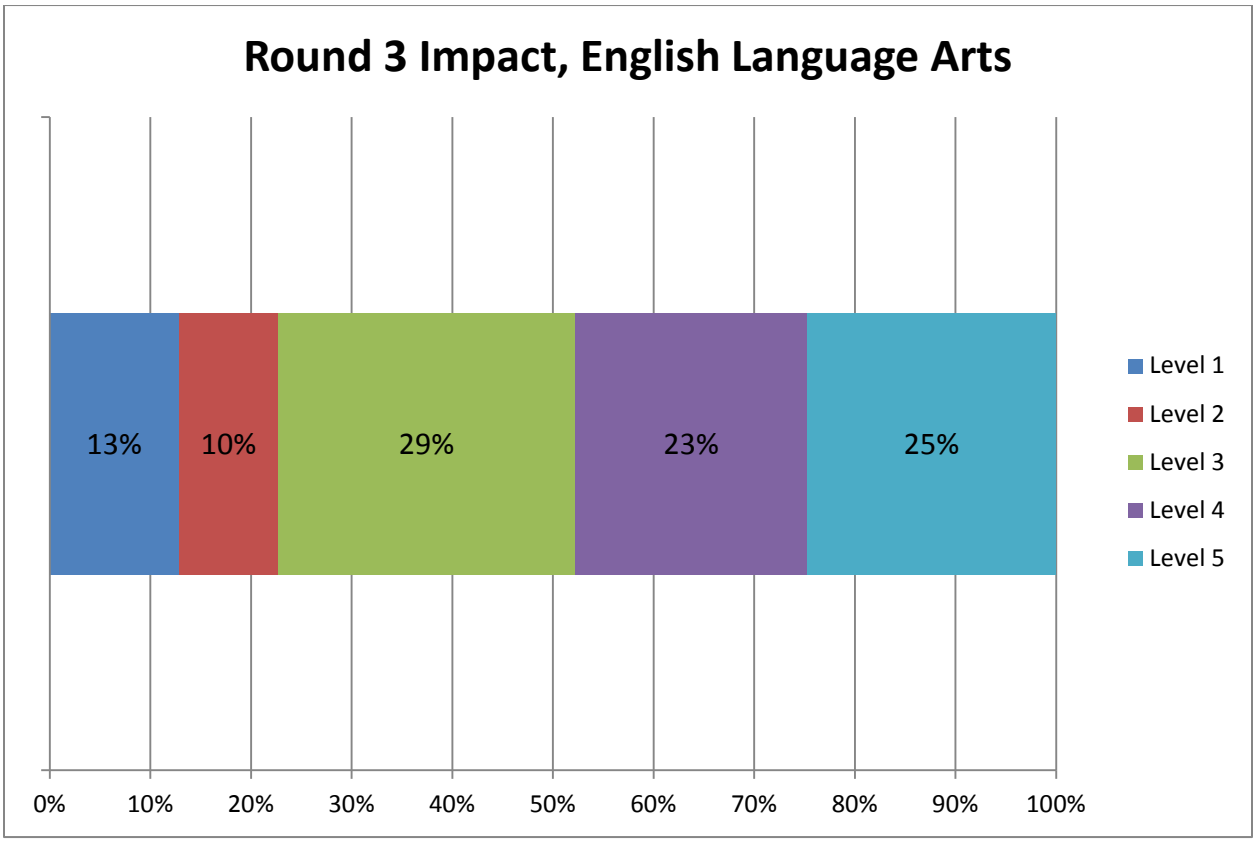



**Figure 5. Percentage of Students in Performance Levels, English Language Arts, Round 3**

## Evaluations

An exit survey was completed by each panelist after the policy verification of the Level 2 and Level 3 cut scores. Panelists answered the survey questions using a scale of 1–4, with 1 being "strongly disagree" and 4 being "strongly agree." The survey questions and the results for each question are provided in Appendices F and G for Algebra I and English language arts, respectively.

The intent of this exit survey was to ensure that panelists understood the policy directives to place constraints on the overall standard setting process and to get their feedback about the recommended cut scores, given the policy directives. Over 95% of the panelists moderately or strongly agreed that they understood the policy directives and that the projected bookmarks fairly represented the minimal level of achievement for students at Level 2 and Level 3.

An additional exit survey was completed by each panelist after all standard setting activities were completed. Panelists answered the survey questions using a scale of 1–4, with 1 being "strongly disagree" and 4 being "strongly agree." The survey questions and the results for each question are provided in Appendices H and I for Algebra I and English language arts, respectively.

The intent of this exit survey was to gather feedback on different aspects of the standard setting procedure and to get panelists' feedback on the recommended cut scores and associated results. All of the panelists moderately or strongly agreed that the cut scores accurately represented the PLDs. Over 90% of the panelists felt that the Bookmark standard setting method and associated activities would produce appropriate results for New York State students.

## Final Recommendations

As described in the previous sections, the NYSED, with facilitation by DRC, conducted a formal standard setting that consisted of two meetings. The first meeting was devoted to the development of PLDs that articulate the range of knowledge, skills, and proficiencies of students at the five levels of performance specified by State policy. The second meeting was dedicated to the identification of cut scores consistent with the PLDs and state policy directives, using a standardized, scientific procedure called the Bookmark method.

Both meetings reflected best psychometric practice as articulated in the Standards for Educational and Psychological Measurement and proceeded according to the plans reviewed by the New York State Technical Advisory Committee as well as independent national expert Dr. Greg Cizek. The participants in both meetings were diverse and representative of the State. All groups followed, without incident, instructions delivered

by standard setting staff. All activities were formally overseen by the Office of State Assessment senior management and psychometric staff.

After careful consideration of the nature of the new examinations, the rigor of the new curricula, the transitional and aspirational aspects of the State policy directives, and the role of the assessment in student learning throughout high school and beyond, the standard setting committees made recommendations on the cut scores to the Commissioner of Education. The Commissioner accepted the recommendations of the standard setting panelists. The approved cut scores were provided to the NYSED's scaling and equating contractor for implementation within the scale of measurement used to report student performance on the New York State Regents Examinations.

The standard setting process was developed and implemented with great care, and best practices in assessment and psychometrics were followed. The policy decisions implemented were consistent with sound psychometric research to guarantee an effective and efficient standard setting.

## References


Andrich, D. (1978). A rating formulation for ordered response categories. *Psychometrika*, 43, 561–73.

Cizek, G. J., & Bunch, M. B. (2007). Standard setting: A guide to establishing and evaluating performance standards on tests. Thousand Oaks, CA: Sage.

Egan, K. L., Schneider, M. C., & Ferrara, S. (2012). Performance level descriptors: History, practice, and a proposed framework. In G. J. Cizek (Ed.), Setting performance standards: Foundations, methods, and innovations (2nd ed., pp. 79–106). New York: Routledge.

Lewis D. M., Mitzel, H. C., & Green, D. R. (1996). Standard Setting: A Bookmark Approach. In D. R. Green (Chair), IRT-Based Standard-Setting Procedures Utilizing Behavioral Anchoring. Symposium presented at the 1996 Council of Chief State School Officers 1996 National Conference on Large Scale Assessment, Phoenix, AZ.

Perie, M. (2008). A guide to understanding and developing performance-level descriptors. Educational Measurement: Issues and Practice, 27(4), 15–29.

Perie, M., Hess, K., & Gong, B. (2008). Writing performance level descriptors: Applying lessons learned from the general assessment to alternate assessments based on alternate and modified achievement standards. Paper presented at the Annual Meeting of the National Council on Measurement in Education in New York, NY, March 2008 and available at http://www.nciea.org.

Rasch, G. (1960/1980). *Probabilistic models for some intelligence and attainment tests*. (Copenhagen, Danish Institute for Educational Research), expanded edition (1980) with foreword and afterword by B. D. Wright. Chicago: The University of Chicago Press.

## Appendix A: Range Performance Level Descriptions, Algebra 1

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **The Real Number System (N-RN)** | **Generalize** and explain when the sums and products are rational or irrational **using abstract representations.**<br><br>Justify the conjecture using concrete examples. | Calculate sums and products of **two rational and/or irrational numbers.**<br><br>**Explain when** sums and products are rational and irrational **using concrete examples.** | Calculate sums and products of **two rational or two irrational numbers.**<br><br>**Determine whether** sums and products are rational or irrational. | **Distinguish between** rational and irrational numbers. | **Identify and order** rational numbers on a number line. |
| **Quantities (N-Q)** | Compare and interpret different representations of the accuracy of a quantity and justify choice of units and quantities.<br><br>**Recognize and explain** how alteration of units would affect solutions. | **Choose and interpret units consistently.**<br><br>**Choose and interpret the scale and the origin** in graphs and data displays.<br><br>**Choose a** level of accuracy appropriate to context **and identify limitations on measurement** when reporting quantities.<br><br>Select or define appropriate quantities for the purpose of modeling. | **Interpret** units selectively.<br><br>Given a graph or data display, **interpret the scale and the origin.**<br><br>**Choose a** level of accuracy appropriate to context when reporting quantities. | **Choose** units for the solutions of problems.<br><br>Given a graph or data display, **identify the scale and the origin.**<br><br>**Identify the indicated** level of accuracy and round to this indicated level of accuracy. | **Identify** units relevant to a context.<br><br>Given a graph or data display, **identify the scale or the origin.** |

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Seeing Structure in Expressions (A-SSE)** | **Explain different interpretations** of expressions. | **Interpret parts of an expression** in terms of its context and rewrite it to reveal information about the context. | **Identify the relationship among** terms, variables, and factors; **describe and classify polynomials**; find appropriate equivalent representations. | **Identify** terms, variables, and factors of an expression.<br>Identify linear or quadratic equivalent expressions. | **Provide evidence that two expressions are equivalent** by substituting numerical values for variables. |
| | Find the most appropriate form of a quadratic function to solve real-world or mathematical problems. | Identify algebraic factors of an expression and factor a quadratic expression with a leading integer coefficient greater than one to solve real-world or mathematical problems. | Distinguish between **linear, quadratic, and exponential** expressions. | Distinguish between **linear and quadratic** expressions. | |
| | Determine the maximum/minimum of a quadratic function **with a leading coefficient greater than one** by completing the square. | Determine the maximum or minimum of a quadratic function **with a leading coefficient of one** by completing the square. | **Factor a quadratic expression with a leading coefficient of one** to solve real-world or mathematical problems. | Factor an expression using the **greatest common factor**. | |
| | | | Given a quadratic expression, identify an equivalent expression in completed-square form. | Find the zeros of a factored quadratic function. | |

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Arithmetic with Polynomials and Rational Expressions (A-APR)** | **Explain and/or show generally** that polynomials are closed under addition, subtraction, and multiplication.<br><br>**Determine and use the zeros of any polynomial function** to sketch its graph, generate graphs and expressions for multiple functions, given particular zeros, and explain the significance of the zeros. | Perform addition, subtraction, and multiplication with polynomials **and demonstrate that polynomials are closed under the three operations.**<br><br>**Identify zeros of quadratic and cubic polynomials** and use the zeros to graph the function.<br><br>**Explain the relationship** between a function and its zeros. | Perform **addition, subtraction, and multiplication on polynomials.**<br><br>**Identify zeros of quadratic polynomials** and use the zeros to graph the function. | Perform **addition and subtraction** with linear expressions.<br><br>Given a **linear polynomial**, construct a graph of the function and identify its zero. | Perform **addition** with linear expressions. |
| **Creating Equations (A-CED)** | Create equations and inequalities in one or two variables and use them to solve problems (i.e., linear, quadratic, or exponential equations).<br><br>Explain how a created equation or inequality models a context. | **Create equations and inequalities in one or two variables** and use them to solve problems (i.e., linear, quadratic, or exponential equations with integer exponents). | **Create linear equations and linear inequalities in one variable** to solve problems. | **Create linear equations in one variable** and use them to solve problems. | Identify an unknown quantity from a context. |

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **(A-CED continued)** | Compare different models of the same context and describe limitations of models. | **Graph linear, quadratic, and exponential equations and linear inequalities in two variables.**<br><br>Distinguish between a linear, quadratic, and exponential function, **given multiple representations**.<br><br>Represent constraints (i.e., real world or mathematical) by equations or inequalities.<br><br>Rearrange **complex** formulas to highlight a quantity of interest. | **Graph linear equations and inequalities in two variables** to solve problems.<br><br>**Graph quadratic and exponential equations** on coordinate axes with labels and scales.<br><br>Rearrange **simple** formulas to highlight a quantity of interest. | **Graph linear equations** on coordinate axes with labels and scales.<br><br>Distinguish between a linear, quadratic, and exponential function **given the same representation** (i.e., algebraic, verbal, graph, table). | **Graph integer ordered pairs** from a given table of *x*- and *y*-values.<br><br>Distinguish between a **linear and nonlinear function.** |

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Reasoning with Equations and Inequalities (A-REI)** | **Predict, without solving,** when a quadratic equation will have no real solutions and explain reasoning with algebraic or graphical evidence.<br><br>Solve linear equations and inequalities and construct a viable argument to justify the advantages of one particular method over another. | Solve quadratic equations in one variable **and recognize cases in which a quadratic equation has no real solutions.**<br><br>Solve linear equations and inequalities in one variable, **including equations with coefficients represented by letters.**<br><br>**Solve systems of linear equations exactly and approximately** (e.g., with graphs), focusing on pairs of linear equations in two variables. | Solve quadratic equations in one variable **with real roots using an appropriate method.**<br><br>**Solve linear equations and inequalities** in one variable. | Verify that a number is a solution to a quadratic equation.<br><br>**Solve one- and two-step linear equations** in one variable.<br><br>Given a system of linear equations in two variables and the solution, **verify the solution algebraically.** | Select solution strategies.<br><br>**Verify a solution to one- and two-step linear equations** in one variable.<br><br>Identify the solution to a system of linear equations **from a graph.** |

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **(A-REI continued)** | Explain why the graph of an equation in two variables is the set of all its solutions. Represent coincidental linear equations as multiples of each other. | **Explain why** the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$. (Functions are limited to **linear, polynomial, rational, or absolute value**.) | Given a system of linear equations **with integer coefficients in two variables**, solve the system exactly or approximately. Approximate the solution(s) to $f(x) = g(x)$, where $f(x)$ and $g(x)$ are **first- and second-degree polynomial functions.** | Approximate the solution(s) to $f(x) = g(x)$, where $f(x)$ and $g(x)$ are **linear functions.** | Given a graph of $y = g(x)$ and $y = f(x)$ (not limited to linear functions), **use integer-valued coordinates to name a point of intersection.** |
| | Explain why there are multiple solutions to a system of inequalities. | Graph the solutions to a linear inequality in two variables as a half-plane **and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.** | Graph the solutions to a linear inequality in two variables as a half-plane using a graphing calculator. | Given the graph of an inequality (or system of inequalities), **generate a point(s) in the solution set.** | Given the graph of an inequality (or system of inequalities), **identify whether a point is in the solution set.** |

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Interpreting Functions (F-IF)** | **Identify the domain and range of a** function given its context. | **Describe a function** as a rule that assigns to each element of the domain a unique element of the range and use proper function notation.<br><br>Evaluate functions.<br>**Identify the domain and range from a graph** and **interpret statements that use function** notation in terms of a context. | Determine **from a table of inputs and outputs** whether a relation is a function.<br><br>Evaluate linear, exponential, and quadratic functions.<br><br>Identify the domain from **a graph or table of values**.<br><br>**Interpret statements that** use function notation. | Determine **from a graph** whether a relation is a function.<br><br>**Use function notation** for inputs and outputs.<br><br>**Identify the domain of a linear function** given a table of values. | **Generate a graph of a linear function** given a table for the input and output. |
| | **Explain how and why explicit and recursive formulas** define the same sequence and relate these representations to a context. | **Identify a recursively defined sequence as a function** and determine its $n^{th}$ term. | **Identify an explicitly defined sequence** as a function and determine its $n^{th}$ term. | **Identify and continue patterns** of arithmetic sequences. | |
| **(F-IF continued)** | Accurately sketch graphs, showing key features, given a verbal description of the relationship, **including piece-wise defined and** | **Accurately sketch and create graphs using technology and interpret** key features of graphs and tables given a verbal description of the | **Accurately sketch and create graphs using technology and identify** key features of graphs, given a verbal | **Graph linear and quadratic functions** and identify key features visible within the "standard zoom" (-10 to 10 calculator window) | **Identify the properties of linear functions** represented algebraically, graphically, or |

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Building Functions (F-BF)** | **Determine a recursive representation** for a linear, quadratic, or exponential function. | **Determine and write the appropriate linear, quadratic, or exponential function** that describes a relationship between two quantities. | **Write a linear or quadratic function** that describes a relationship between two quantities. | **Write a qualitative or narrative description of a linear function** that describes the behavior and/or relationship between two quantities.<br><br>Determine a representation, intermediate steps, or calculations for a linear function. | Identify the descriptive characteristics of inputs and outputs of a linear function. |
| | Given the equation of a transformed linear or quadratic function, **create an appropriate graph and interpret the transformations.** | Identify the effect on a graph of **replacing *f*(*x*) with *f*(*x*) + *k*, *k f*(*x*), *f*(*kx*), and *f*(*x* + *k*). Find the value of k given the graphs.** | Identify the effect on a graph of **replacing *f*(*x*) with *k f*(*x*), *f*(*kx*), and *f*(*x* + *k*) for specific values of *k* (both positive and negative integers).** | Identify the effect on a graph of **replacing *f*(*x*) with *f*(*x*) + *k* where *k* is a positive or negative integer and replacing *f*(*x*) with *kf*(*x*) where *k* is a positive integer.** | Identify the effect on a graph of **replacing *f*(*x*) with *f*(*x*) + *k* where *k* is a positive integer.** |

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Linear, Quadratic, and Exponential Models (F-LE)** | Explain, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. | **Demonstrate that** a given linear function grows by equal differences over equal intervals and an exponential function grows by equal factors over equal intervals (where differences and factors are integers).<br><br>Construct **linear and exponential functions, including arithmetic and geometric sequences** given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).<br><br>Identify situations in which a quantity grows or decays at **a constant percent rate per unit interval relative to another.** | Show, **using graphs and tables,** that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.<br><br>Construct **linear and exponential functions** given a graph or two input-output pairs with or without a graphing calculator (including reading these from a table).<br><br>Identify situations in which one quantity changes at **a constant rate per unit interval relative to another.** | Identify **a situation that can be modeled** with a linear function.<br><br>Construct **linear functions** given a graph or two input-output pairs (including reading these from a table).<br><br>**Using a graph**, show that a quantity increasing exponentially grows faster than a quantity increasing linearly. | Identify **the graph of a** linear function.<br><br>Distinguish between **graphs of different linear functions.** |

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **(F-LE continued)** | Interpret **changes in parameters** based on the comparison of two functions in terms of a real-world context. | **Interpret the parameters** (i.e., slope or growth factor) in a linear, quadratic, or exponential function in terms of a real-world context. | Identify and **distinguish between situations that can be modeled with linear functions and exponential functions.**<br><br>**Identify the slope and *y*-intercept in a linear function** in terms of a real-world context. | | |
| **Summarize, Represent, and Interpret Data (S-ID)** | Choose and justify the most appropriate plot on a number line.<br><br>**Choose and justify the most appropriate measures** of center and spread of the data distribution in two or more data sets.<br><br>**Identify and explain** errors in inferences made based on assumptions about the data. | **Interpret data** with plots on a number line.<br><br>**Choose and interpret the most appropriate measures** of center and spread of the data distribution **in two or more data sets.**<br><br>Interpret the differences in shape, center, **and** spread in the context of the data, including the effects of outliers. | Represent data with plots on a number line **(i.e., dot plots, histogram, and box plots).**<br><br>**Choose the most appropriate measure** of center of data sets, considering the shape and spread of the data.<br><br>Interpret the differences in shape, center, **or** spread in the context of the data, including the effects of outliers. | Represent data with plots on a number line with a **dot plot or histogram.**<br><br>**Calculate a given** measure of center.<br><br>**Identify** outliers. | Represent data with a **dot plot.** |

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **(S-ID continued)** | **Provide evidence to show** possible associations and trends in the data. | **List and interpret possible associations** and trends in the data in a two-way frequency table. | **Summarize categorical data** for two categories in two-way frequency tables. | Given two-way table, **identify quantitative differences** of categorical data. | From a two-way table, **state** relative frequencies. |
| | Summarize, represent, and interpret data on two categorical and quantitative variables. | Interpret marginal, joint, and conditional relative frequencies in the context of the data. | Interpret marginal relative frequencies in the context of the data. | | |
| | **Fit a linear, quadratic, or exponential function to real-world data** and use residuals to assess the fit. | **Use residuals to assess the fit of a linear, quadratic, or exponential function.** | **Fit a linear function** to real world data. | | |
| | Compare and contrast the strength of the fit for a **variety of functions.** | Use the graphing calculator to determine the correlation coefficient of **a linear model and assess the strength and direction of the fit.** | Use the graphing calculator to **determine the correlation coefficient** and **direction of a linear model.** | Identify a strong or weak correlation **given a correlation coefficient**. | **Distinguish between** scatterplots that show a negative correlation and scatterplots that show a positive correlation. |
| | | | Interpret the meaning of slope **and** the *y*-intercept of a linear model in real-world context. | **Interpret the meaning of the *y*-intercept or slope** of a linear model in real-world context. | **Identify the slope or *y*-intercept** given a linear model. |

## Algebra I Performance Level Descriptions

| Domain | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **(S-ID continued)** | **Generate and explain examples** of relationships that are correlated and causal or correlated but not causal. | **Distinguish between** correlation and causation. | | | |

## Appendix B: Range Performance Level Descriptions, English Language Arts

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. (CCR R1) | Demonstrate an in-depth understanding by judiciously and accurately citing textual evidence that most effectively supports an analysis of what a literary text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. | Demonstrate a thorough understanding by citing textual evidence that most effectively supports an analysis of what a literary text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. | Demonstrate an understanding by citing textual evidence that somewhat supports an analysis of what a literary text says explicitly and may draw inferences from the text to establish meaning. | Demonstrate a limited understanding by citing with inconsistent accuracy some textual evidence that provides limited support in attempting to analyze what a literary text says explicitly and may draw inferences from the text. | Demonstrate an insufficient understanding by citing inaccurate or no textual evidence as support in attempting to analyze what a literary text says explicitly. |
| | Demonstrate an in-depth understanding by judiciously and accurately citing textual evidence to support a critical analysis of what an informational text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain; develop in-depth factual, interpretive, and evaluative questions for further exploration of the topic(s). | Demonstrate a thorough understanding by citing textual evidence that most effectively supports an analysis of what an informational text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain; thoroughly develop factual, interpretive, and evaluative questions for further exploration of the topic(s). | Demonstrate an understanding by citing textual evidence that somewhat supports an analysis of what an informational text says explicitly and may draw inferences from the text to establish meaning; develop factual, interpretive, and evaluative questions for further exploration of the topic(s). | Demonstrate a limited understanding by citing with inconsistent accuracy some textual evidence that provides limited support in attempting to analyze what an informational text says explicitly and may draw inferences from the text; develop factual, interpretive, or evaluative questions for further exploration of the topic(s). | Demonstrate an insufficient understanding by citing inaccurate or no textual evidence as support in attempting to analyze what an informational text says explicitly and may draw inadequate or inaccurate inferences from the text; may develop incomplete factual, interpretive, or evaluative questions for further exploration of the topic. |

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas. (CCR R2) | Demonstrate an in-depth and nuanced understanding of a literary text by determining two or more themes or central ideas and analyzing their development over the course of the text, including how they interact and build on one another to produce a complex account; provide a nuanced, detailed, and accurate summary of the text. | Demonstrate a thorough understanding of a literary text by determining two or more themes or central ideas and analyzing their development over the course of the text, including how they interact and build on one another to produce a complex account; provide a detailed and accurate summary of the text. | Demonstrate an understanding of a literary text by determining a theme or central idea and analyzing its development over the course of the text; provide an accurate summary of the text. | Demonstrate a limited understanding of a literary text by determining a theme or central idea; provide an incomplete summary of the text. | Demonstrate an insufficient understanding of a literary text by inaccurately determining a theme or central idea; provide an inaccurate summary of the text. |
| | Demonstrate an in-depth and nuanced understanding of an informational text by determining two or more themes or central ideas and analyzing their development over the course of the text, including how they interact and build on one another to produce a complex analysis; provide a nuanced, detailed, and accurate summary of the text. | Demonstrate a thorough understanding of an informational text by determining two or more themes or central ideas and analyzing their development over the course of the text, including how they interact and build on one another to produce a complex analysis; provide a detailed and accurate summary of the text. | Demonstrate an understanding of an informational text by determining a theme or central idea and analyzing its development over the course of the text; provide an accurate summary of the text. | Demonstrate a limited understanding of an informational text by determining a theme or central idea; provide an incomplete summary of the text. | Demonstrate an insufficient understanding of an informational text by inaccurately determining a theme or central idea; provide an inaccurate summary of the text. |

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Analyze how and why individuals, events, and ideas develop and interact over the course of a text. (CCR R3) | Provide a detailed and nuanced analysis of the impact of the author's choices regarding how and why elements are developed and related within a literary text, demonstrating a clear understanding of the relationship between form and content. | Provide a thorough analysis of the impact of the author's choices regarding how and why elements are developed and related within a literary text. | Provide an analysis of the author's choices regarding how or why elements are developed and related within a literary text. | Provide a limited analysis of the author's choices regarding how or why elements are developed within a literary text. | Provide an insufficient or inaccurate analysis of the author's choices regarding how or why elements are developed within a literary text. |
| | Provide a detailed and nuanced analysis of a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of an informational text, demonstrating a clear understanding of the subtleties inherent in these interactions. | Provide a thorough analysis of a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of an informational text. | Provide a limited analysis of a complex set of ideas or sequence of events and explain how some individuals, ideas, or events interact and develop over the course of an informational text. | Provide a limited analysis of a simple set of ideas or sequence of events and a superficial explanation of how some individuals, ideas, or events interact and develop over the course of an informational text. | Provide an insufficient or inaccurate analysis of a set of ideas or sequence of events and an incomplete or inaccurate explanation of how individuals, ideas, or events interact and develop over the course of an informational text. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone. (CCR R4) | Determine with precision and detail the meaning of words and phrases as they are used in a literary text, including figurative and connotative meanings; provide a detailed and nuanced analysis of the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.<br><br>Determine with precision and detail the meaning of words and phrases as they are used in an informational text, including figurative, connotative, and technical meanings; provide an accurate analysis of how an author uses and refines the meaning of a key term or key terms over the course of a text. | Determine the meaning of words and phrases as they are used in a literary text, including figurative and connotative meanings; provide an accurate analysis of the specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.<br><br>Determine the meaning of words and phrases as they are used in an informational text, including figurative, connotative, and technical meanings; provide an accurate analysis of how an author uses and refines the meaning of a key term or key terms over the course of a text. | Determine the meaning of some words and phrases as they are used in a literary text, sometimes including figurative and connotative meanings; provide a reasonable analysis of the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.<br><br>Determine the meaning of some words and phrases as they are used in an informational text, sometimes including figurative, connotative, and technical meanings; provide a reasonable analysis of how an author uses and refines the meaning of a key term or key terms over the course of a text. | Inconsistently determine the meaning of words and phrases as they are used in a literary text; provide a limited analysis of the impact of specific word choices on meaning and tone.<br><br>Inconsistently determine the meaning of words and phrases as they are used in an informational text; provide a limited analysis of how an author uses the meaning of a key term or key terms over the course of a text. | Inaccurately determine the meaning of most words and phrases as they are used in a literary text; provide an inadequate and/or inaccurate analysis of the impact of specific word choices on meaning and tone.<br><br>Inaccurately determine the meaning of most words and phrases as they are used in an informational text; provide an insufficient and/or inaccurate analysis of how an author uses the meaning of a key term or key terms over the course of a text. |

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole. (CCR R5) | Demonstrate an in-depth understanding of literary structure by providing a detailed and nuanced analysis of how an author's choices concerning how to structure specific parts of a literary text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.<br><br>Demonstrate an in-depth understanding of expository and argumentative structure by providing a detailed and nuanced analysis of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging. | Demonstrate a thorough understanding of literary structure by analyzing how an author's choices concerning how to structure specific parts of a literary text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning as well as its aesthetic impact.<br><br>Demonstrate a thorough understanding of expository and argumentative structure by analyzing and evaluating the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging. | Demonstrate an understanding of literary structure by superficially analyzing how an author's choices concerning how to structure specific parts of a literary text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning.<br><br>Demonstrate an understanding of expository and argumentative structure by superficially analyzing and evaluating the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging. | Demonstrate a limited understanding of literary structure by unevenly analyzing how an author's choices concerning how to structure specific parts of a literary text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning.<br><br>Demonstrate a limited understanding of expository and argumentative structure by unevenly analyzing or evaluating the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear and convincing. | Demonstrate an insufficient understanding of literary structure by inadequately and/or inaccurately analyzing how an author's choices concerning how to structure specific parts of a literary text (e.g., the choice of where to begin or end a story, the choice to provide a comedic or tragic resolution) contribute to its overall structure and meaning.<br><br>Demonstrate an insufficient understanding of expository and argumentative text structure by inadequately and/or inaccurately analyzing or evaluating the effectiveness of the structure an author uses in his or her exposition or argument. |

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Assess how point of view or purpose shapes the content and style of a text.<br>(CCR R6) | Demonstrate an in-depth understanding of point of view in a literary text by providing a detailed and nuanced analysis of point of view, distinguishing what is directly stated from what is really meant (e.g., satire, sarcasm, irony, or understatement).<br><br>Demonstrate an in-depth understanding of point of view in an informational or argumentative text by precisely determining an author's point of view or purpose in a text in which rhetoric is particularly effective, providing a detailed and nuanced analysis of how style and content contribute to the power, persuasiveness, or beauty of the text. | Demonstrate a thorough understanding of point of view in a literary text by analyzing point of view, distinguishing what is directly stated from what is really meant (e.g., satire, sarcasm, irony, or understatement).<br><br>Demonstrate a thorough understanding of point of view in an informational or argumentative text by determining an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text. | Demonstrate an understanding of point of view in a literary text by inconsistently distinguishing what is directly stated from what is really meant (e.g., satire, sarcasm, irony, or understatement).<br><br>Demonstrate an understanding of point of view in an informational or argumentative text by superficially determining an author's point of view or purpose in a text in which the rhetoric is particularly effective, inconsistently analyzing how style and content contribute to the power, persuasiveness, or beauty of the text. | Demonstrate a limited understanding of point of view in a literary text by identifying the point of view.<br><br>Demonstrate a limited understanding of point of view in an informational or argumentative text by identifying an author's point of view or purpose in a text. | Demonstrate an insufficient understanding of point of view in a literary text by inaccurately identifying the point of view.<br><br>Demonstrate an insufficient understanding of point of view in an informational or argumentative text by inaccurately identifying an author's point of view or purpose in a text. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words. (CCR R7) | [NA to literary texts]<br><br>Demonstrate an in-depth understanding of media and formats for informational text by providing a detailed and nuanced integration and evaluation of multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. | [NA to literary texts]<br><br>Demonstrate a thorough understanding of media and formats for informational text by effectively integrating and evaluating multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. | [NA to literary texts]<br><br>Demonstrate an understanding of media and formats for informational text by integrating and evaluating multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. | [NA to literary texts]<br><br>Demonstrate a limited understanding of media and formats for informational text by partially integrating sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. | [NA to literary texts]<br><br>Demonstrate an insufficient understanding of media and formats for informational text by inaccurately and/or inadequately integrating sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| **Note:** The PLDs for R7 are only valid if the task requires the student to incorporate diverse formats. | | | | | |
| Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence. (CCR R8) | [NA to literary texts]<br><br>Demonstrate a detailed and nuanced understanding of an informational text by precisely delineating and evaluating the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy. | [NA to literary texts]<br><br>Demonstrate a thorough understanding of an informational text by delineating and evaluating the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy. | [NA to literary texts]<br><br>Demonstrate an understanding of an informational text by delineating and unevenly evaluating the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy. | [NA to literary texts]<br><br>Demonstrate a limited understanding of an informational text by describing the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy. | [NA to literary texts]<br><br>Demonstrate an insufficient understanding of an informational text by inadequately or inaccurately describing the reasoning in seminal U.S. texts, including the application of constitutional principles and use of legal reasoning and the premises, purposes, and arguments in works of public advocacy. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. (CCR R9) | [NA to literary texts]<br><br>Provide an in-depth and nuanced analysis of seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance and informational texts on topics related to diverse and non-traditional cultures and viewpoints for their themes, purposes, and rhetorical features. | [NA to literary texts]<br><br>Thoroughly analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance and informational texts on topics related to diverse and non-traditional cultures and viewpoints for their themes, purposes, and rhetorical features. | [NA to literary texts]<br><br>Analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance and informational texts on topics related to diverse and non-traditional cultures and viewpoints by making specific observations on their themes and purposes. | [NA to literary texts]<br><br>Provide a limited analysis of seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance and informational texts on topics related to diverse and non-traditional cultures and viewpoints by making general observations on their themes and purposes. | [NA to literary texts]<br><br>Insufficiently analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance and informational texts on topics related to diverse and non-traditional cultures and viewpoints by making inadequate or inaccurate observations on their themes and purposes. |
| Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. (CCR W1) | Produce precise and compelling argumentative texts that fully support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence in an engaging way. | Produce argumentative texts that thoroughly support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. | Produce argumentative texts that support claims in an analysis of substantive topics or texts, using valid reasoning and partially relevant and sufficient evidence. | Produce argumentative texts that minimally support claims in an analysis of substantive topics or texts, using general evidence that may be somewhat irrelevant. | Produce argumentative texts that insufficiently support claims in an analysis of substantive topics or text, using mostly irrelevant or inadequate evidence. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| (CCR W1 continued) | Introduce precise, insightful, and knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that strategically and logically sequences claim(s), counterclaims, reasons, and evidence. | Introduce precise and knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. | Introduce general claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that somewhat logically sequences claim(s), counterclaims, reasons, and evidence. | Introduce general claim(s) and distinguish the claim(s) from alternate or opposing claims in a limited way and attempt an organizational pattern. | Introduce unclear claim(s) and insufficiently distinguish the claim(s) from alternate or opposing claims. |
| | Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while aptly pointing out the strengths and limitations of both in a manner that effectively anticipates the audience's knowledge level, concerns, values, and possible biases. | Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. | Develop claim(s) and counterclaims by supplying relevant evidence for each and acknowledge the audience. | Develop claim(s) and counterclaims by supplying general evidence for each. | Develop claim(s) and counterclaims by supplying inadequate or irrelevant evidence for each. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| (CCR W1 continued) | Use high-level and vivid words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. | Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. | Use words, phrases, and clauses that attempt to establish the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. | Use general words, phrases, and clauses to state claim(s) and counterclaims. | Use insufficient or incoherent words, phrases, and clauses to state claim(s) or counterclaims. |
| | Establish and maintain a formal style and objective tone while demonstrating mastery of norms and conventions of the discipline in which they are writing. | Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. | Establish a formal style and objective tone while partially attending to the norms and conventions of the discipline in which they are writing. | Minimally establish a formal style and objective tone, using some language that is inappropriate. | Establish a style that is incoherent or mostly inappropriate. |
| | Provide an insightful concluding statement or section that follows from and supports the argument presented. | Provide a concluding statement or section that follows from and supports the argument presented. | Provide a concluding statement or section that follows from the argument presented. | Provide a general concluding statement or section. | Provide an inadequate or incoherent concluding statement or section. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Write informative/ explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. (CCR W2) | Produce precise and insightful informative/ explanatory texts that fully examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. | Produce informative/ explanatory texts that thoroughly examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. | Produce informative/ explanatory texts that examine complex ideas, concepts, and information somewhat clearly and accurately through the selection, organization, and analysis of content. | Produce informative/ explanatory texts that superficially examine ideas, concepts, and information. | Produce informative/ explanatory texts that inadequately or incoherently examine ideas, concepts, and information. |
| | Introduce a topic; organize complex ideas, concepts, and information so that each new element strategically builds on that which precedes it to create a unified whole. | Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole. | Introduce a topic; organize ideas, concepts, and information to create a unified whole. | Introduce a topic with inconsistent organization of ideas. | Introduce a topic with incoherent organization of ideas. |
| | Strategically develop the topic fully and in depth by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. | Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. | Develop the topic by selecting relevant facts, extended definitions, concrete details, quotations, or other information. | Develop the topic minimally by selecting some relevant facts, definitions, details, quotations, or other information. | Develop the topic insufficiently by selecting irrelevant facts, definitions, details, quotations, or other information. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| (CCR W2 continued) | Use strategic, sophisticated, and varied transitions and syntax to link the major sections of the text to create cohesion and clarify the relationships among complex ideas and concepts. | Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts. | Use appropriate transitions and syntax to link sections of the text, create cohesion, and identify the relationships among ideas and concepts. | Use some weak or inappropriate transitions to link sections of the text. | Use mostly inappropriate transitions, or none, to link sections of the text. |
| | Use precise and sophisticated language as well as domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. | Use precise language and domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic. | Use language that inconsistently includes domain-specific vocabulary to manage the complexity of the topic. | Use language that includes minimal domain-specific vocabulary to manage the topic. | Use language that includes inadequate or inappropriate domain-specific vocabulary to manage the topic. |
| | Establish and maintain a formal style and objective tone while demonstrating mastery of norms and conventions of the discipline in which they are writing. | Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. | Establish a formal style and objective tone while partially attending to the norms and conventions of the discipline in which they are writing. | Minimally establish a formal style and objective tone, using some language that is inappropriate. | Establish a style that is incoherent or mostly inappropriate. |

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (CCR W4) | Produce clear, coherent, and sophisticated writing in which the development, organization, and style are appropriate to task, purpose, and audience. | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. | Produce coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. | Produce writing in which the development, organization, and style are inconsistently appropriate to task, purpose, and audience. | Produce unclear, incoherent writing in which the development, organization, and style are inappropriate to task, purpose, and audience. |
| Draw evidence from literary or informational texts to support analysis, reflection, and research. (CCR W9)<br><br>(CCR W9 continued) | Draw evidence from literary or informational texts to effectively support analysis, reflection, and research.<br><br>Demonstrate an in-depth understanding of the careful and purposeful use of evidence in writing by skillfully and purposefully drawing evidence from literary or informational texts to support analysis, reflection, and research through application of the Grade 11 Reading Standards. | Draw evidence from literary or informational texts to support analysis, reflection, and research.<br><br>Demonstrate a thorough understanding of the careful and purposeful use of evidence in writing by carefully drawing evidence from literary or informational texts to support analysis, reflection, and research through application of the Grade 11 Reading Standards. | Draw evidence from literary or informational texts to partially support analysis, reflection, and research.<br><br>Demonstrate a general or basic understanding of the use of evidence in writing by drawing evidence from literary or informational texts to support analysis, reflection, and research through application of the Grade 11 Reading Standards. | Draw evidence from literary or informational texts to minimally support analysis, reflection, and research.<br><br>Demonstrate a limited or minimal understanding of the use of evidence in writing by inconsistently drawing evidence from literary or informational texts to support analysis, reflection, and research through application of the Grade 11 Reading Standards. | Draw evidence from literary or informational texts to insufficiently support analysis, reflection, and research.<br><br>Demonstrate an insufficient understanding of the use of evidence in writing by inadequately or inaccurately drawing evidence from literary or informational texts to support analysis, reflection, and research through application of the Grade 11 Reading Standards. |

## English Language Arts Performance Level Descriptions

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. (CCR L1) | Demonstrate a sophisticated, skillful command of the conventions of standard English grammar and usage to produce writing with essentially no errors. | Demonstrate a solid command of the conventions of standard English grammar and usage to produce writing with few errors. | Demonstrate a command of the conventions of standard English grammar and usage to produce writing with occasional errors that do not significantly hinder comprehension. | Demonstrate an emerging command of the conventions of standard English grammar and usage to produce writing with some errors that may hinder comprehension. | Demonstrate a lack of command of the conventions of standard English grammar and usage to produce writing with many errors that hinder comprehension. |
| Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. (CCR L2) | Demonstrate a sophisticated, skillful command of the conventions of standard English capitalization, punctuation, and spelling to produce writing with essentially no errors. | Demonstrate a solid command of the conventions of standard English capitalization, punctuation, and spelling to produce writing with few errors. | Demonstrate a command of the conventions of standard English capitalization, punctuation, and spelling to produce writing with occasional errors that do not significantly hinder comprehension. | Demonstrate an emerging command of the conventions of standard English capitalization, punctuation, and spelling to produce writing with some errors that may hinder comprehension. | Demonstrate a lack of command of the conventions of standard English capitalization, punctuation, and spelling to produce writing with many errors that hinder comprehension. |
| Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening. (CCR L3) | Exhibit a sophisticated and precise use of language and its conventions when reading and writing. | Exhibit a consistent and effective use of language and its conventions when reading and writing. | Exhibit a competent and coherent use of language and its conventions when reading and writing. | Exhibit an inconsistent, limited, or imprecise use of language and its conventions when reading and writing. | Exhibit an insufficient or incoherent use of language and its conventions when reading and writing. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate. (CCR L4) | Consistently determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 11 reading and content. | Mostly determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 11 reading and content. | Unevenly determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 11 reading and content. | Minimally determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 11 reading and content. | Incorrectly define the meaning of unknown and multiple-meaning words and phrases based on grade 11 reading and content. |
| Demonstrate an understanding of figurative language, word relationships, and nuances in word meanings. (CCR L5) | Demonstrate an in-depth understanding of figurative language, word relationships, and nuances in word meaning by:<br><br>consistently interpreting figures of speech in context and thoughtfully analyzing their role in the text;<br><br>and/or<br><br>precisely analyzing nuances in the meaning of words with similar connotations. | Demonstrate understanding of figurative language, word relationships, and nuances in word meanings by:<br><br>mostly interpreting figures of speech in context and analyzing their role in the text;<br><br>and/or<br><br>analyzing nuances in the meaning of words with similar connotations. | Demonstrate understanding of figurative language, word relationships, and nuances in word meanings by:<br><br>unevenly interpreting figures of speech in context;<br><br>and/or<br><br>partially analyzing nuances in the meaning of words with similar connotations. | Demonstrate a limited understanding of figurative language, word relationships, and nuances in word meanings by:<br><br>minimally interpreting figures of speech in context;<br><br>and/or<br><br>ineffectively analyzing nuances in the meaning of words with similar connotations. | Demonstrate insufficient understanding of figurative language, word relationships, and nuances in word meanings by:<br><br>inadequately interpreting figures of speech in context;<br><br>and<br><br>inaccurately understanding nuances in the meaning of words. |

| Anchor Standard | NYS Level 5 | NYS Level 4 | NYS Level 3 | NYS Level 2 | NYS Level 1 |
|---|---|---|---|---|---|
| Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression. (CCR L6) | Use general academic and domain-specific words and phrases in a precise and insightful way, demonstrating mastery of reading and writing at the college and career readiness level. | Use general academic and domain-specific words and phrases in an accurate way, sufficient for reading and writing at the college and career readiness level. | Use general academic and domain-specific words and phrases in a mostly accurate way, nearing sufficiency for reading and writing at the college and career readiness level. | Use general academic and domain-specific words and phrases with limited accuracy, approaching sufficiency for reading and writing at the college and career readiness level. | Use general academic and domain-specific words and phrases inaccurately or not at all, lacking sufficiency for reading and writing at the college and career readiness level. |

## Appendix C: Performance Level Description Homework

We look forward to you joining us for the Regents Examination in Algebra I (Common Core) Standard Setting Meeting on June 16 and 17. The purpose of the standard setting meeting is to recommend cut scores for the Algebra I (Common Core) Regents Examination. Prior to the meeting, please review the attached documents, as well as complete the tasks requested below. We will be relying on performance level descriptions to guide our process during the meeting. It is essential that you are familiar with the following two documents:

1. **Performance Level Policy Statements**—The policy statements have been written by NYSED and capture the policy vision for each of the five Regents Examination performance levels. The policy statements summarize expectations of student performance for the Regents Examination program as well as the associated policy decisions that the statements support.
2. **Performance Level Descriptions (PLDs)**—The PLDs were developed by a committee of New York educators. They are designed to describe the full range of knowledge and skills expected of examinees at a given performance level at each domain. PLDs are used throughout an assessment program to support a variety of item and test development activities.

The policy statements and PLDs play a critical role in the standard setting process in that they are used to articulate the **threshold PLDs** which focus on the transition points between the different ranges of performance defined by the PLDs. Specifically, the threshold PLDs describe the knowledge and skills a student at the border between performance levels should know and be able to do across all domains. An important step in the standard setting process on June 16 and 17 will include developing the **threshold PLDs**.

**Pre-Meeting Tasks**

1) Review the PLDS for Level 3 (*partially meets* Common Core expectations, required for current Regents Diploma purposes) and Level 4 (*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022), comparing and contrasting them. Think about the transition between Level 3 and Level 4 at the threshold. In particular, think about the student who is "just barely" meeting Common Core expectations and ask yourself the following questions:

   - What key features as described in the PLD document differentiate Level 3 and Level 4 students?
   - What knowledge and skills should a just barely Level 4 student (*meets* Common Core expectations) have that distinguishes them from students in Level 3 (*partially meets* Common Core expectations)?

   Please prepare three to five brief statements that describe the student who "*meets* Common Core expectations" at the threshold between Level 3 and Level 4. These statements should describe the knowledge and skills that distinguish a Level 4 student from a Level 3 student.

2) Review the PLDS for Level 4 (*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022) and Level 5 (*exceeds* Common Core expectations),

comparing and contrasting them. Think about the transition between Level 4 and Level 5 at the threshold. In particular, think about the student who is "just barely" at level 5 (*exceeds* Common Core expectations) and ask yourself the following questions:

- What key features as described in the PLD document differentiate Level 4 and Level 5 students?
- What knowledge and skills should a <u>just barely</u> Level 5 student (*exceeds* Common Core expectations) have that distinguishes them from students in Level 4 (*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022)?

Please prepare three to five statements that describe the student who "*exceeds* Common Core expectations" at the threshold between Level 4 and Level 5. These statements should describe the knowledge and skills that distinguish a Level 5 student from a Level 4 student.

Bring your brief statements for both thresholds to the standard setting meeting. We will spend time discussing the transition between Levels 3 and 4 and Levels 4 and 5, as well as articulating the transition between the other performance levels. There is a reason for looking at these two thresholds that will become clear at the beginning of the standard setting meeting, but you are welcome to also prepare statements for the thresholds between Levels 1 and 2 and Levels 2 and 3, as we will also be developing the threshold PLDs at these transitions.

**HOMEWORK**

Please prepare three to five brief knowledge and skills statements that distinguish one level from another. Remember to focus on the knowledge and skills that students who are at the threshold between levels should have. Think of what students who are just barely in a given level should be able to do. The statements should be brief. For example,

Students just entering Level 4 should be able to:

- Simplify, expand, and evaluate numerical expressions and identify their equivalent representations.

Please bring your completed homework to the standard setting meeting. We will be collecting all panelists' statements at the start of the meeting to be combined and distributed later in the process.

| **LEVEL 3/4 THRESHOLD** | **LEVEL 4/5 THRESHOLD** |
|---|---|
| Please prepare three to five brief statements that describe the student who "*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022" at the threshold between Level 3 and Level 4.<br><br>Students just entering Level 4 should be able to:<br>• | Please prepare three to five brief statements that describe the student who "exceeds Common Core expectations" at the threshold between Level 4 and Level 5.<br><br>Students just entering Level 5 should be able to:<br>• |
| • | • |
| • | • |
| • | • |
| • | • |

We look forward to you joining us for the Regents Examination in English Language Arts (Common Core) Standard Setting Meeting on June 16 and 17. The purpose of the standard setting meeting is to recommend cut scores for the English Language Arts (Common Core) Regents Examination. Prior to the meeting, please review the attached documents, as well as complete the tasks requested below. We will be relying on performance level descriptions to guide our process during the meeting. It is essential that you are familiar with the following two documents:

1. **Performance Level Policy Statements**—The policy statements have been written by NYSED and capture the policy vision for each of the five Regents Examination performance levels. The policy statements summarize expectations of student performance for the Regents Examination program as well as the associated policy decisions that the statements support.
2. **Performance Level Descriptions (PLDs)**—The PLDs were developed by a committee of New York educators. They are designed to describe the full range of knowledge and skills expected of examinees at a given performance level at each domain. PLDs are used throughout an assessment program to support a variety of item and test development activities.

The policy statements and PLDs play a critical role in the standard setting process in that they are used to articulate the **threshold PLDs** which focus on the transition points between the different ranges of performance defined by the PLDs. Specifically, the threshold PLDs describe the knowledge and skills a student at the border between performance levels should know and be able to do across all domains. An important step in the standard setting process on June 16 and 17 will include developing the **threshold PLDs**.

**Pre-Meeting Tasks**

1) Review the PLDS for Level 3 (*partially meets* Common Core expectations, required for current Regents Diploma purposes) and Level 4 (*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022), comparing and contrasting them. Think about the transition between Level 3 and Level 4 at the threshold. In particular, think about the student who is "just barely" meeting Common Core expectations and ask yourself the following questions:

   - What key features as described in the PLD document differentiate Level 3 and Level 4 students?
   - What knowledge and skills should a just barely Level 4 student (*meets* Common Core expectations) have that distinguishes them from students in Level 3 (*partially meets* Common Core expectations)?

   Please prepare three to five brief statements that describe the student who "*meets* Common Core expectations" at the threshold between Level 3 and Level 4. These statements should describe the knowledge and skills that distinguish a Level 4 student from a Level 3 student.

2) Review the PLDS for Level 4 (*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022) and Level 5 (*exceeds* Common Core expectations),

comparing and contrasting them. Think about the transition between Level 4 and Level 5 at the threshold. In particular, think about the student who is "just barely" at level 5 (*exceeds* Common Core expectations) and ask yourself the following questions:

- What key features as described in the PLD document differentiate Level 4 and Level 5 students?
- What knowledge and skills should a <u>just barely</u> Level 5 student (*exceeds* Common Core expectations) have that distinguishes them from students in Level 4 (*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022)?

Please prepare three to five statements that describe the student who "*exceeds* Common Core expectations" at the threshold between Level 4 and Level 5. These statements should describe the knowledge and skills that distinguish a Level 5 student from a Level 4 student.

Bring your brief statements for both thresholds to the standard setting meeting. We will spend time discussing the transition between Levels 3 and 4 and Levels 4 and 5, as well as articulating the transition between the other performance levels. There is a reason for looking at these two thresholds that will become clear at the beginning of the standard setting meeting, but you are welcome to also prepare statements for the thresholds between Levels 1 and 2 and Levels 2 and 3, as we will also be developing the threshold PLDs at these transitions.

**HOMEWORK**

Please prepare three to five brief knowledge and skills statements that distinguish one level from another. Remember to focus on the knowledge and skills that students who are at the threshold between levels should have. Think of what students who are just barely in a given level should be able to do. The statements should be brief. For example,

Students just entering Level 4 should be able to:

- provide an accurate and adequate summary of a literary text.
- make simple inferences about specific elements in a literary text.

Please bring your completed homework to the standard setting meeting. We will be collecting all panelists' statements at the start of the meeting to be combined and distributed later in the process.

| **LEVEL 3/4 THRESHOLD** | **LEVEL 4/5 THRESHOLD** |
|---|---|
| Please prepare three to five brief statements that describe the student who "*meets* Common Core expectations, first required for Regents Diploma purposes with the Class of 2022" at the threshold between Level 3 and Level 4.<br><br>Students just entering Level 4 should be able to:<br>• | Please prepare three to five brief statements that describe the student who "exceeds Common Core expectations" at the threshold between Level 4 and Level 5.<br><br>Students just entering Level 5 should be able to:<br>• |
| • | • |
| • | • |
| • | • |
| • | • |

## Appendix D: Agenda for Standard Setting

# NEW YORK STATE REGENTS EXAMINATIONS IN ALGEBRA I (COMMON CORE) AND ENGLISH LANGUAGE ARTS (COMMON CORE)
# STANDARD SETTING
# JUNE 16-17, 2014

## AGENDA

**Monday, June 16, 2014**

***8:00 am – 8:30 am*** **Registration and Breakfast**

***8:30 am – 10:15 am*** **Welcome and Training**

The purpose of the day's first session is to provide background information on this standard setting meeting and articulate your roles and responsibilities in the standard setting process. A detailed overview of the process being used will be given.

***10:15 am – 10:30 am*** **Break**

***10:30 am – 11:45 pm*** **Introductions and Test Review**

The goal of the test review is to review the operational test individually to get a sense of the student experience and to preview the test items that will be used in the bookmark process.

***11:45 pm – 12:45 pm*** **Lunch**

***12:45 pm – 2:45 pm*** **Review PLDs and Discuss Threshold Students**

The goal of this discussion is to develop a common understanding of the students at each threshold and to articulate a description of students at the thresholds.

***2:45 pm – 3:00 pm*** **Break**

***3:00 pm – 3:30 pm*** **Refresher Training**

The purpose of this training session is to re-orient you to the bookmark method and go through a practice activity.

***3:30 pm – 4:00 pm*** **Level 3 and Level 2 Bookmark Evaluation**

The purpose of this session is to evaluate the policy directive in relation to the Level 3/Level 2 and Level 2/Level 1 cut scores.

***4:00 pm – 5:00 pm*** **Level 4 and Level 5 Bookmarking - Round 1**

During round 1, you will individually determine the bookmark placement for the thresholds based on the threshold PLDs and your professional expertise. These bookmark placements will be translated to cut scores for the exam.

(over)

**Tuesday, June 17, 2014**

| | |
|---|---|
| ***8:00 am – 8:30 am*** | **Breakfast** |
| ***8:30 am – 10:00am*** | **Discussion of Round 1 Results** |
| | The goal of this session is to discuss and gain perspective of table peers regarding round 1 bookmark placements. A consensus does not need to be reached. |
| ***10:00 am – 10:15 am*** | **Break** |
| ***10:15 am – 11:30 am*** | **Level 4 and Level 5 Bookmarking - Round 2** |
| | During round 2, you will individually determine the bookmark placement for the thresholds based on the threshold PLDs and your professional expertise. These bookmark placements will be translated to cut scores for the exam. |
| ***11:30 am – 12:30 pm*** | **Lunch** |
| ***12:30 pm – 2:00 pm*** | **Discussion of Round 2 Results** |
| | The goal of this session is to discuss and gain perspective of all subject peers regarding round 2 bookmark placements. The room facilitator will share overall recommended bookmark cut scores as well as impact data based on the cut scores. |
| ***2:00 pm – 3:30 pm*** | **Level 4 and Level 5 Bookmarking - Round 3** |
| | During round 3, you will individually determine the bookmark placement for the thresholds based on the threshold PLDs and your professional expertise. These bookmark placements will be translated to cut scores for the exam. |
| ***3:30 pm – 4:00 pm*** | **Break** |
| ***4:00 pm – 4:30 pm*** | **Discussion of Round 3 Results** |
| | Final impact results based on the recommended cut scores will be shared and reactions to the bookmark process and impact results will be discussed. |

## Appendix E: Training Slides

engage^ny
Our Students. Their Moment.

## New York State Regents Examination in Algebra I (Common Core) Standard Setting

Albany, New York
June 16-17, 2014



## Today's Agenda

- Introductions
- Take the Test
- Lunch
- Review PLDs and Create Threshold Student Descriptions
- Break
- Training
- Level 3 and Level 2 Review
- Level 4 and Level 5 Bookmarking - Round 1



## Introductions

- What is your name?
- Where are you from?
- How long have you been teaching or involved in education?



## Take the Test

- Please take the following items on the test:
  - MC - 1, 2, 8, 9, 13, 15, 16, 18, 20, 21
  - CR - 27, 28, 29, 31, 33, 36, 37
- Please review remaining items if you have time
- When done, please sign your test book in
- Report back to this room after lunch at 12:45

# LUNCH



## Threshold Student Descriptions

- **For each threshold:**
  - **Review performance level descriptions**
  - **Generate knowledge and skill statements**
  - **Develop summary of knowledge and skill statements**
  - **In the following sequence**
    - Level 3/4 threshold
    - Level 4/5 threshold
    - Level 2/3 threshold
    - Level 1/2 threshold

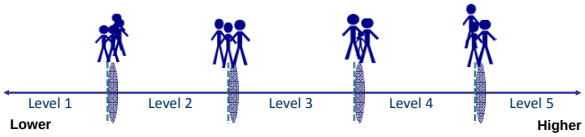


## Review the PLDs


- **Performance Level Descriptions:**
  - **Describe the knowledge and skills expected of students at each of the five performance levels**
  - **Describe the range of performance of the level, not the boundary between levels**



## Conceptualize the Threshold Student




- **Based on the PLDs, visualize New York State students who are:**
  - **Just barely entering the next higher level**
  - **What knowledge and skills should a student have at the thresholds?**

## Conceptualize the Threshold Student

**Level 4: Meets Common Core expectations**
**(First required for Regents Diploma purposes with the Class of 2022)**

- Review knowledge and skill statements from homework
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the PLDs
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student



## Conceptualize the Threshold Student

**Level 5: Exceeds Common Core expectations**

- Review knowledge and skill statements from homework
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the PLDs
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student



## Conceptualize the Threshold Student

**Level 3: Partially meets Common Core expectations**
**(Required for current Regents Diploma purposes).**

- Create knowledge and skill statements using PLDs
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the PLDs
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student



## Conceptualize the Threshold Student

**Level 2 (Safety Net): Partially meets Common Core expectations**
**(Required for Local Diploma purposes.)**

- Create knowledge and skill statements using PLDs
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the content standards
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student

## Break

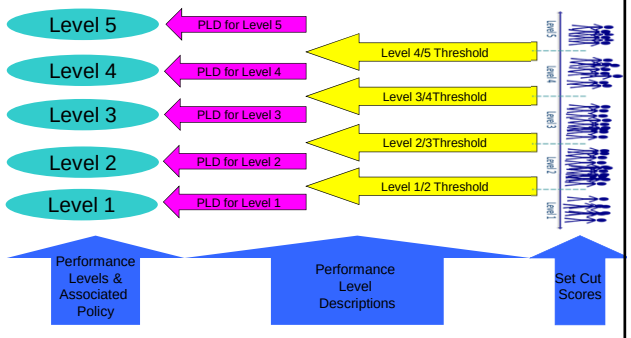
- Return to this room at 3pm



## Bookmark Training and Practice



## Relationship of PLDs, Performance Levels and Cut Scores



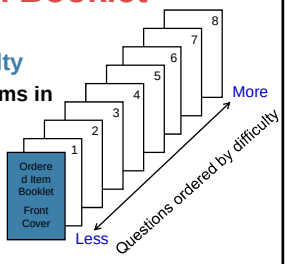



## Materials

- PLDs
- Description of Threshold Students
- OIB
- Item Map
- Item Separation Chart
- Bookmark Form

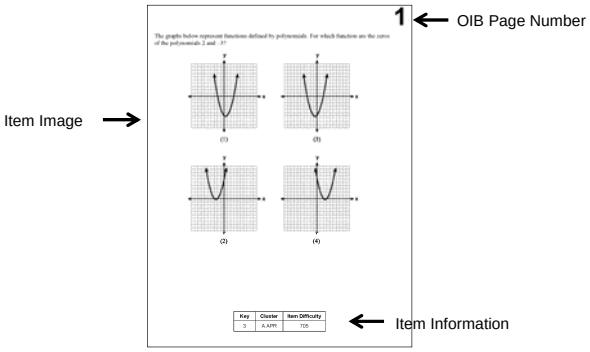
## Ordered Item Booklet

- Items are ordered by difficulty
  - Easy items in front; hard items in back
- One MC/CR point per page
  - CRs appear multiple times
  - Scoring rubric for each CR score point
- Difficulty estimates based on a sample of NYS students that is representative of a typical Regents Exam administration



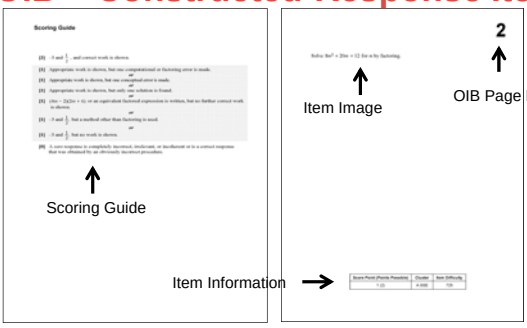



## OIB - Multiple-Choice Item






## OIB – Constructed-Response Item

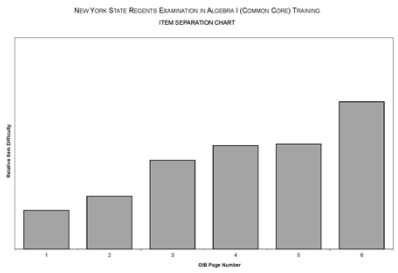





## Item Map

| OIB Page | Test Seq | Item Type | Score Pt (Pts Poss) | Key | Cluster | Item Difficulty | Notes |
|---|---|---|---|---|---|---|---|
| 1 | 1 | MC | | 3 | A.APR | 705 | |
| 2 | 5 | CR | 1 (2) | | A.SSE | 725 | |
| 3 | 4 | MC | | 2 | A.REI | 776 | |
| 4 | 5 | CR | 2 (2) | | A.SSE | 797 | |
| 5 | 2 | MC | | 4 | A.CED | 799 | |
| 6 | 3 | MC | | 3 | S.ID | 859 | |

# Item Separation Chart






# Bookmark Form

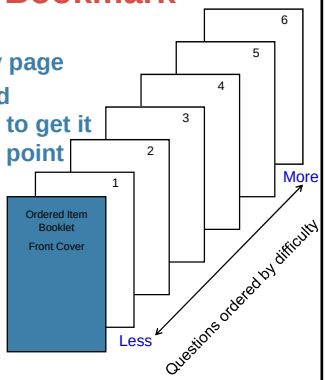
MJulia

| | OIB Page Number<br>Your "bookmark" will be between 2 pages – write down the first page. (This will be the last item the threshold student should be able to answer correctly 2/3 of the time.) |
|---|---|
| | **Level 3/Level 4** |
| **Round 1** | |
| **Round 2** | |
| **Round 3** | |



# Placing a Bookmark

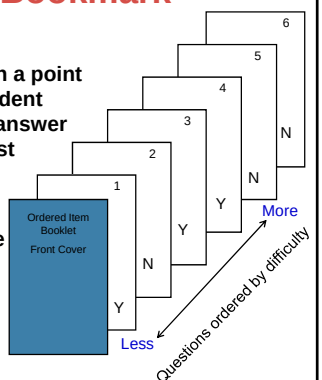
- Go through OIB page by page
- Judge whether threshold students should be able to get it correct or score that CR point or higher
  - Use 2/3rds as criterion





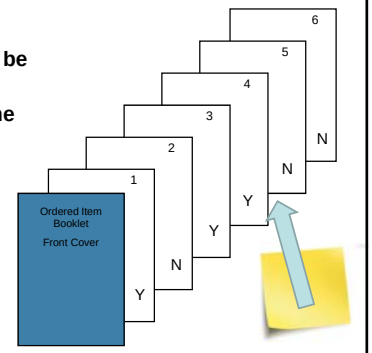

# Placing a Bookmark

- Key Task:
  - Continue until you reach a point where the threshold student would consistently not answer the item correctly at least 2/3rds of the time
- Key Points
  - Do not focus on a single item
  - Identify groups of items where the transition occurs



## Placing a Bookmark

- **Place Bookmark:**
  - **Your bookmark will be between 2 pages**
  - **Place a post-it on the last item where you think the threshold student should get the item correct 2/3rds of the time**
  - **Record this page number on your bookmark form**






## Test Design

- Regents Exams are constructed using the statistical model called *item response theory (IRT)*. All state testing programs use IRT.
- IRT allows different test forms with different items to have scale scores with the same meaning within the same subject area (e.g., June and August Algebra I Regents Exams).
- With IRT, a scale score depends on the level of difficulty of the items the student gets correct, not on the number of items a student gets correct (raw score).
- The raw score-to-scale score conversion chart provides the transformation from the number of items answered correctly (raw score) to a measure of the difficulty of items answered correctly (scale score).



## Important Points

- The ordered item booklets are based on IRT – they reflect the difficulty of the items from least to most difficult.
- Ordered sequence of items represents increasing knowledge and skills required to achieve a particular scaled score.
- The page number is not the same as number of items answered correctly (raw score).
- Thinking in terms of number of items answered correctly (raw score) is inconsistent with the Bookmark method.



## Example

HYPOTHETICAL

| OIB Page | Raw Score |
|---|---|
| 1 | 15 |
| 2 | 21 |
| 3 | 24 |
| 4 | 26 |
| 5 | 27 |
| 6 | 28 |

## Remember

- Do not consider the page number as a proxy for number of items answered correctly (raw score).



## Practice Exercise

- **Review the five sample Algebra items**
- **Using the threshold descriptions that we created, visualize a student just barely out of the Level 3 and just barely into Level 4**
- **Go through the training OIB page by page**
  - **assess whether a just barely Level 4 student has a sufficient probability of answering each item correctly**
    - Sufficient is defined as 2/3rds of the time



## Practice Exercise

- **For each item, indicate on the item map or the OIB if you expect the threshold student to answer the item correctly at least 2/3rds of the time (Y) or less than 2/3rds (N)**
- **Place a post-it note on the last item you judge that your threshold student would get correct *at least* 2/3rds of the time**
- **Indicate on the training bookmark placement form the last item you judge your threshold student would get correct *at least* 2/3rds of the time**



## Practice

## Practice Exercise: Sample Results

- **After round 1:**
  - Individual cut scores (i.e., OIB page) given to each table leader
  - Table cut score (median) provided to each table
- **After round 2:**
  - Individual and table cut scores provided to each table
  - Table cut scores and overall cut score recommendation shown to entire room

| | Round 1 | | | |
|---|---|---|---|---|
| | Table 1 OIB Pages | | | |
| Panelist ID | I/II | II/III | III/IV | IV/V |
| 1 | | | 5 | |
| 2 | | | 2 | |
| 3 | | | 2 | |
| 4 | | | 3 | |
| 5 | | | 5 | |
| 6 | | | 3 | |
| Median | | | 3 | |

| | Round 1 OIB Page Cut | | | |
|---|---|---|---|---|
| Table | I/II | II/III | III/IV | IV/V |
| 1 | | | 3 | |
| 2 | | | 3 | |
| 3 | | | 3 | |
| 4 | | | 4 | |
| 5 | | | 4 | |
| 6 | | | 2 | |
| 7 | | | 3 | |
| Room | | | 3 | |



## Practice Exercise: Sample Results

| Round 1 Impacts | | | | |
|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 18.00 | 22.00 | 35.00 | 11.00 | 14.00 |

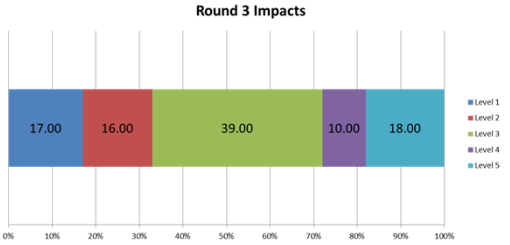
| Round 2 Impacts | | | | |
|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 16.00 | 20.00 | 32.00 | 10.00 | 22.00 |

| Round 3 Impacts | | | | |
|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 17.00 | 16.00 | 39.00 | 10.00 | 18.00 |

- **After rounds 2 and 3, impact data across rounds will be presented**



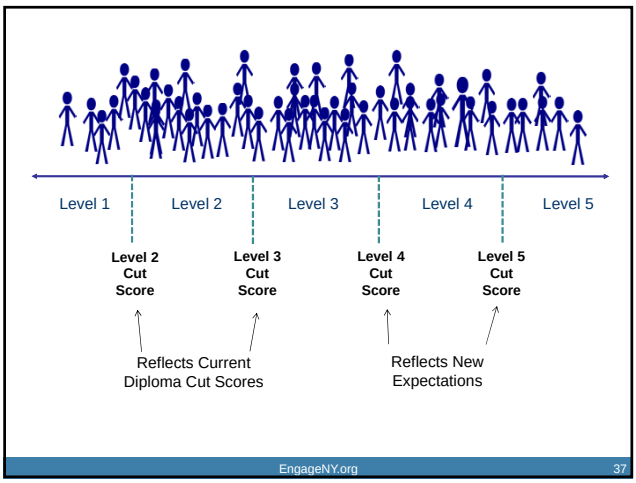
## Practice Exercise: Sample Results

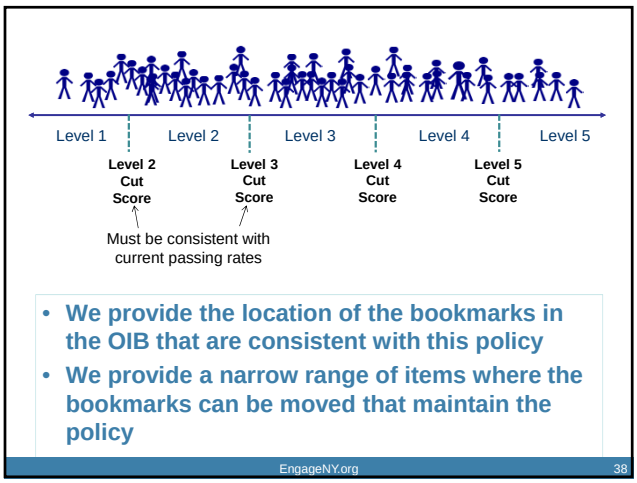


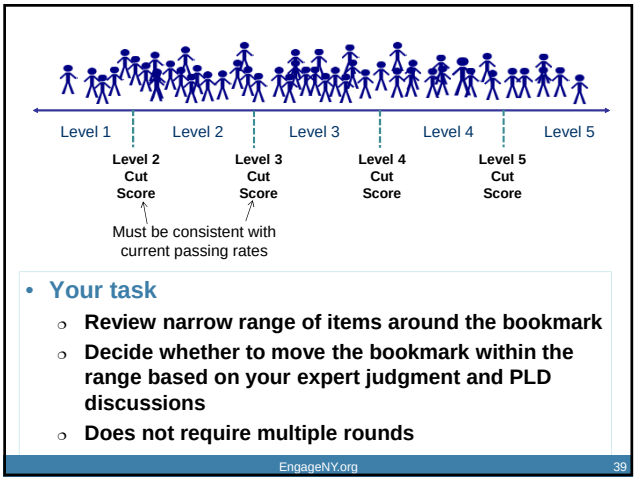

- **After rounds 2 and 3, data will be provided showing the percent of students that would be in each performance level based on the recommended cut scores**

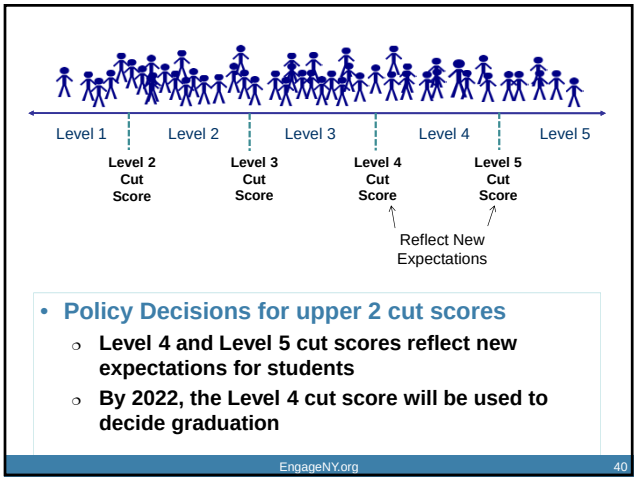


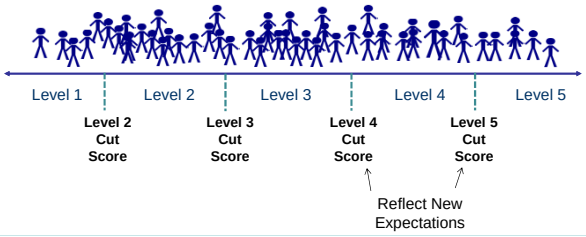
## Questions?


Level 1
Level 2
Level 3
Level 4
Level 5
Level 2 Cut Score
Level 3 Cut Score
Level 4 Cut Score
Level 5 Cut Score
Reflects Current Diploma Cut Scores
Reflects New Expectations
EngageNY.org
37


Level 1
Level 2
Level 3
Level 4
Level 5
Level 2 Cut Score
Level 3 Cut Score
Level 4 Cut Score
Level 5 Cut Score
Must be consistent with current passing rates
• We provide the location of the bookmarks in the OIB that are consistent with this policy
• We provide a narrow range of items where the bookmarks can be moved that maintain the policy
EngageNY.org
38


Level 1
Level 2
Level 3
Level 4
Level 5
Level 2 Cut Score
Level 3 Cut Score
Level 4 Cut Score
Level 5 Cut Score
Must be consistent with current passing rates
• Your task
◦ Review narrow range of items around the bookmark
◦ Decide whether to move the bookmark within the range based on your expert judgment and PLD discussions
◦ Does not require multiple rounds
EngageNY.org
39


Level 1
Level 2
Level 3
Level 4
Level 5
Level 2 Cut Score
Level 3 Cut Score
Level 4 Cut Score
Level 5 Cut Score
Reflect New Expectations
• Policy Decisions for upper 2 cut scores
◦ Level 4 and Level 5 cut scores reflect new expectations for students
◦ By 2022, the Level 4 cut score will be used to decide graduation
EngageNY.org
40




- Your task for these thresholds is to
  - Review each item in sequence and ask yourself whether a student at a given threshold would get an item right most of the time (2/3rds)
  - Identify where in the OIB the answer to that question transitions from Yes to No
  - Multiple rounds with feedback after each round



# Questions?

- Complete Readiness Form



# Policy Review: Level 3 and Level 2



# Policy Review: Level 3 and Level 2

- Policy dictates that the percent of students at or above these two levels should be equivalent to current levels
- Median passing rates over the last 5 years were computed with a confidence band

| | Median Level 3 Pass Rates | Range for Level 3 | Median Level 2 Pass Rates | Range for Level 2 |
|---|---|---|---|---|
| Algebra 1 | 67% | 62-72% | 83% | 80-86% |

## Policy Review: Level 3 and Level 2

- Looking at performance on the new Regents Exam, we worked backwards and identified:
  - Bookmark page consistent with the median
  - Narrow range of bookmark locations
- When you apply passing rates from older test to new more rigorous test, the bookmark placements will appear early in the OIB
  - Remember bookmark location is not the same as number of points
  - These bookmark locations translate to reasonable number correct scores



## Policy Review: Level 3 and Level 2

- Provide you with small item map that includes
  - Bookmark location corresponding to median passing rate
  - Range of alternative bookmark locations
    - Blue for Level 3
    - Yellow for Level 2
  - Associated passing rates
    - % of students at or above the level



## Policy Review: Level 3 and Level 2

- Task
  - What page number that is in line with the policy directive would you recommend be used?
  - Please provide your rationale
    - Knowledge and skills reflected in items
    - Discussion of PLDs
    - Expert judgment
    - Impact data



## Bookmarking Activities Level 4 and Level 5

## Round 1

## Start Round 1

- Ask yourself the following questions for each threshold
  - **MC Items: Should a student just barely at a threshold be able to get this right 2/3 of the time?**
  - **CR Items: Should a student just barely at a threshold be able to get at least this score point 2/3 of the time?**
- Remember:
  - **Threshold Student Descriptions**
  - **Following order:**
    - Level 3/Level 4
    - Level 4/Level 5
  - **Individual task**



## Next Steps

- Sign in your OIB when you are done
- Breakfast will be available starting at 7:30 tomorrow morning in the Courtyard
- Meet in this room by 8:30 tomorrow morning



## Day 2 Agenda

- Discuss Round 1 Results
- Break
- Round 2
- Lunch
- Discuss Round 2 Results
- Round 3
- Break
- Discuss Round 3 Results



## Discuss Round 1 Results

- Table leader will lead table-level discussions for each threshold:
  - **What is the distribution of bookmark pages?**
  - **How did you determine your bookmark placement?**
    - Use threshold PLD summaries to defend your placement

## Break

- Meet back here at 10:15



## Start Round 2

- Ask yourself:
  - MC Items: Should a just barely Level 4 student be able to get this right 2/3 of the time?
  - CR Items: Should a just barely Level 4 student be able to get at least this score point 2/3 of the time?
- Remember:
  - Threshold Student Descriptions
  - Following order:
    - Level 3/ Level 4
    - Level 4/ Level 5
  - Individual task



## Discuss Round 2 Results

- Table leader will lead table-level discussions for each threshold:
  - Did the distribution of bookmark pages change?
  - How did you determine your bookmark placement?
    - Use threshold PLD summaries to defend your placement



## Start Round 3

- Ask yourself:
  - MC Items: Should a just barely Level 4 student be able to get this right 2/3 of the time?
  - CR Items: Should a just barely Level 4 student be able to get at least this score point 2/3 of the time?
- Remember:
  - Use PLDs
  - Following order:
    - Level 3 / Level 4
    - Level 4 / Level 5
  - Individual task
- When complete, sign in your materials and complete the evaluation form.

## Thank you!

engage^ny
Our Students. Their Moment.

## New York State Regents Examination in English Language Arts (Common Core) Standard Setting

Albany, New York
June 16-17, 2014



## Today's Agenda

- Introductions
- Take the Test
- Lunch
- Review PLDs and Create Threshold Student Descriptions
- Break
- Training
- Level 3 and Level 2 Review
- Level 4 and Level 5 Bookmarking - Round 1



## Introductions

- What is your name?
- Where are you from?
- How long have you been teaching or involved in education?



## Take the Test

- Please take the following items on the test:
  - Passage 1 – MC items 1 through 10
  - Review Parts 2 and 3 and think about how students would go about answering
- Please review remaining passages in Part 1 and associated items if you have time
- When done, please sign your test book in
- Report back to this room after lunch at 12:45

# LUNCH



## Threshold Student Descriptions

- For each threshold:
  - Review performance level descriptions
  - Generate knowledge and skill statements
  - Develop summary of knowledge and skill statements
  - In the following sequence
    - Level 3/4 threshold
    - Level 4/5 threshold
    - Level 2/3 threshold
    - Level 1/2 threshold

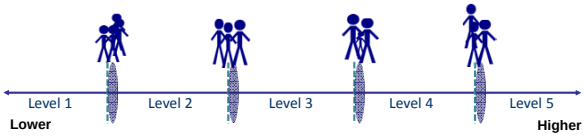


## Review the PLDs


- Performance Level Descriptions:
  - Describe the knowledge and skills expected of students at each of the five performance levels
  - Describe the range of performance of the level, not the boundary between levels



## Conceptualize the Threshold Student




- Based on the PLDs, visualize New York State students who are:
  - Just barely entering the next higher level
  - What knowledge and skills should a student have at the thresholds?

## Conceptualize the Threshold Student

**Level 4: Meets Common Core expectations**
**(First required for Regents Diploma purposes with the Class of 2022)**

- Review knowledge and skill statements from homework
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the PLDs
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student



## Conceptualize the Threshold Student

**Level 5: Exceeds Common Core expectations**

- Review knowledge and skill statements from homework
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the PLDs
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student



## Conceptualize the Threshold Student

**Level 3: Partially meets Common Core expectations**
**(Required for current Regents Diploma purposes).**

- Create knowledge and skill statements using PLDs
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the PLDs
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student



## Conceptualize the Threshold Student

**Level 2 (Safety Net): Partially meets Common Core expectations**
**(Required for Local Diploma purposes.)**

- Create knowledge and skill statements using PLDs
  - Operationalize each statement for the threshold students – i.e. what would be "just enough" or "just barely" sufficient for each PLD statement
- Consider behaviors and classroom experiences directly linked to the content standards
- Focus on knowledge and skills
  - Avoid other students attributes (e.g., low SES)
- Form a group definition (concept) of a threshold student

## Break

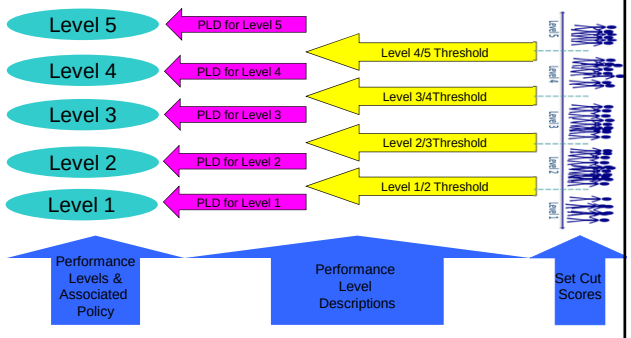
- Return to this room at 3pm



## Bookmark Training and Practice



## Relationship of PLDs, Performance Levels and Cut Scores



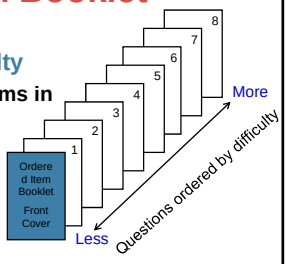



## Materials

- PLDs
- Description of Threshold Students
- OIB
- Item Map
- Item Separation Chart
- Bookmark Form
- Passages
- Tasks, Texts, and Scoring Rubric

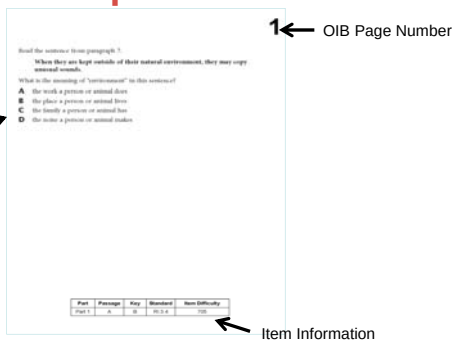
## Ordered Item Booklet

- Items are ordered by difficulty
  - Easy items in front; hard items in back
- One MC/CR point per page
  - CRs appear multiple times
  - Scoring rubric for each CR score point
- Difficulty estimates based on a sample of NYS students that is representative of a typical Regents Exam administration



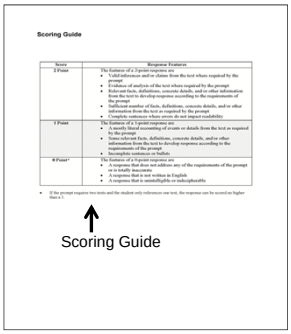


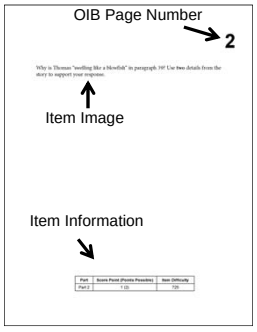

## OIB - Multiple-Choice Item






## OIB – Constructed-Response Item



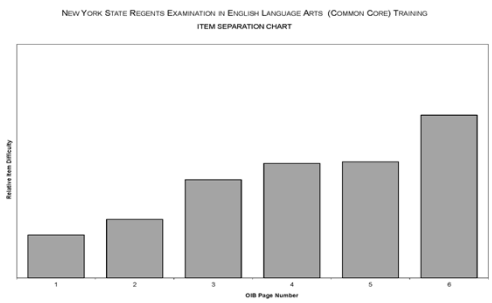



## Item Map

Name: OIB Number:

| OIB Page | Test Seq | Item Type | Score Pt (Pts Poss) | Passage | Key | Standard | Item Difficulty | Notes |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | MC | | A | B | RI.3.4 | 705 | |
| 2 | Part 2 | CR | 1 (2) | | | | 725 | |
| 3 | 4 | MC | | A | C | RI.3.1 | 776 | |
| 4 | Part 2 | CR | 2 (2) | | | | 797 | |
| 5 | 2 | MC | | A | C | RI.3.8 | 799 | |
| 6 | 3 | MC | | A | C | RI.3.1 | 859 | |

# Item Separation Chart






# Bookmark Form

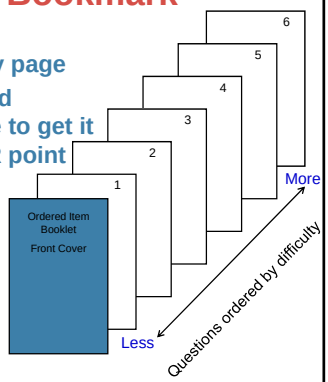
MJulia

| | OIB Page Number<br>Your "bookmark" will be between 2 pages – write down the first page. (This will be the last item the threshold student should be able to answer correctly 2/3 of the time.) |
|---|---|
| | **Level 3/Level 4** |
| **Round 1** | |
| **Round 2** | |
| **Round 3** | |



# Placing a Bookmark

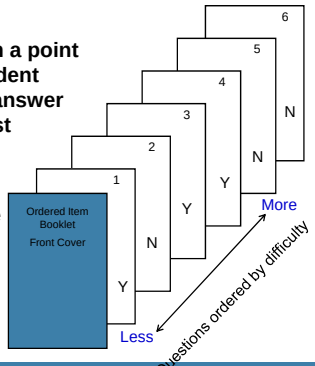
- Go through OIB page by page
- Judge whether threshold students should be able to get it correct or score that CR point or higher
  - Use 2/3rds as criterion





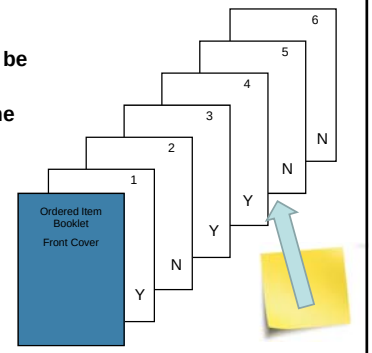

# Placing a Bookmark

- Key Task:
  - Continue until you reach a point where the threshold student would consistently not answer the item correctly at least 2/3rds of the time
- Key Points
  - Do not focus on a single item
  - Identify groups of items where the transition occurs



## Placing a Bookmark

- **Place Bookmark:**
  - **Your bookmark will be between 2 pages**
  - **Place a post-it on the last item where you think the threshold student should get the item correct 2/3rds of the time**
  - **Record this page number on your bookmark form**






## Test Design

- Regents Exams are constructed using the statistical model called *item response theory (IRT)*. All state testing programs use IRT.
- IRT allows different test forms with different items to have scale scores with the same meaning within the same subject area (e.g., June and August Algebra I Regents Exams).
- With IRT, a scale score depends on the level of difficulty of the items the student gets correct, not on the number of items a student gets correct (raw score).
- The raw score-to-scale score conversion chart provides the transformation from the number of items answered correctly (raw score) to a measure of the difficulty of items answered correctly (scale score).



## Important Points

- The ordered item booklets are based on IRT – they reflect the difficulty of the items from least to most difficult.
- Ordered sequence of items represents increasing knowledge and skills required to achieve a particular scaled score.
- The page number is not the same as number of items answered correctly (raw score).
- Thinking in terms of number of items answered correctly (raw score) is inconsistent with the Bookmark method.



## Example

HYPOTHETICAL

| OIB Page | Raw Score |
|---|---|
| 1 | 15 |
| 2 | 21 |
| 3 | 24 |
| 4 | 26 |
| 5 | 27 |
| 6 | 28 |

## Remember

- Do not consider the page number as a proxy for number of items answered correctly (raw score).



## Practice Exercise

- **Review the five sample ELA items**
  - **ELA Grade 3 sample items**
- **Visualize a student just barely out of the Level 3 and just barely into Level 4**
- **Go through the training OIB page by page**
  - **assess whether a just barely Level 4 student has a sufficient probability of answering each item correctly**
    - Sufficient is defined as 2/3rds of the time



## Practice Exercise

- **For each item, indicate on the item map or the OIB if you expect the threshold student to answer the item correctly at least 2/3rds of the time (Y) or less than 2/3rds (N)**
- **Place a post-it note on the last item you judge that your threshold student would get correct *at least* 2/3rds of the time**
- **Indicate on the training bookmark placement form the last item you judge your threshold student would get correct *at least* 2/3rds of the time**



## Practice

## Practice Exercise: Sample Results

- **After round 1:**
  - Individual cut scores (i.e., OIB page) given to each table leader
  - Table cut score (median) provided to each table
- **After round 2:**
  - Individual and table cut scores provided to each table
  - Table cut scores and overall cut score recommendation shown to entire room

| | Round 1 | | | |
|---|---|---|---|---|
| | Table 1 OIB Pages | | | |
| Panelist ID | I/II | II/III | III/IV | IV/V |
| 1 | | | 5 | |
| 2 | | | 2 | |
| 3 | | | 2 | |
| 4 | | | 3 | |
| 5 | | | 5 | |
| 6 | | | 3 | |
| Median | | | 3 | |

| | Round 1 OIB Page Cut | | | |
|---|---|---|---|---|
| Table | I/II | II/III | III/IV | IV/V |
| 1 | | | 3 | |
| 2 | | | 3 | |
| 3 | | | 3 | |
| 4 | | | 4 | |
| 5 | | | 4 | |
| 6 | | | 2 | |
| 7 | | | 3 | |
| Room | | | 3 | |



## Practice Exercise: Sample Results

| Round 1 Impacts | | | | |
|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 18.00 | 22.00 | 35.00 | 11.00 | 14.00 |

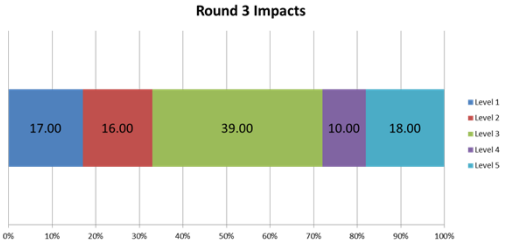
| Round 2 Impacts | | | | |
|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 16.00 | 20.00 | 32.00 | 10.00 | 22.00 |

| Round 3 Impacts | | | | |
|---|---|---|---|---|
| Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 17.00 | 16.00 | 39.00 | 10.00 | 18.00 |

- **After rounds 2 and 3, impact data across rounds will be presented**



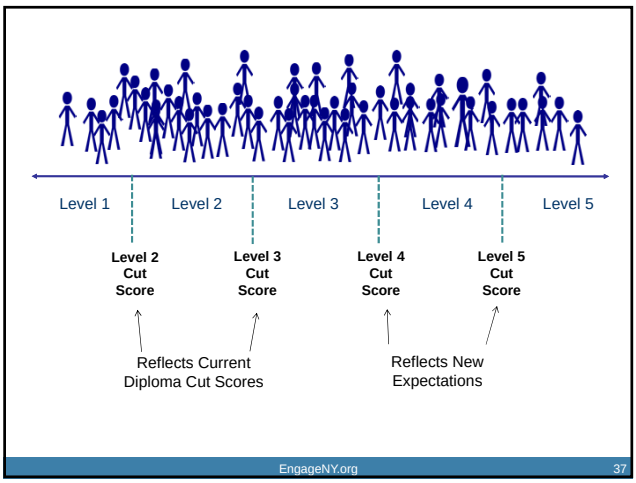
## Practice Exercise: Sample Results



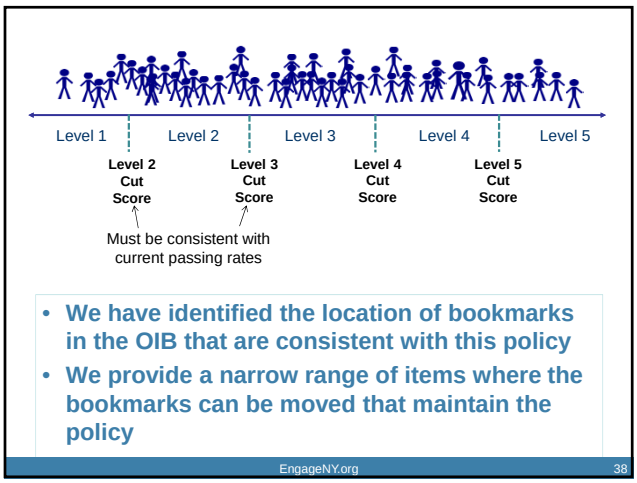

- **After rounds 2 and 3, data will be provided showing the percent of students that would be in each performance level based on the recommended cut scores**



## Questions?

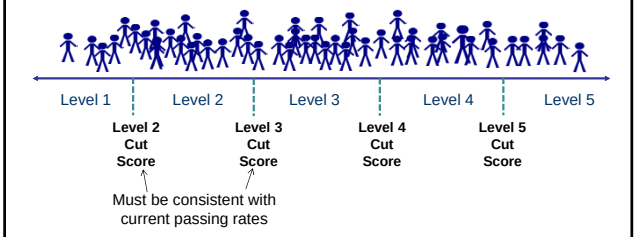




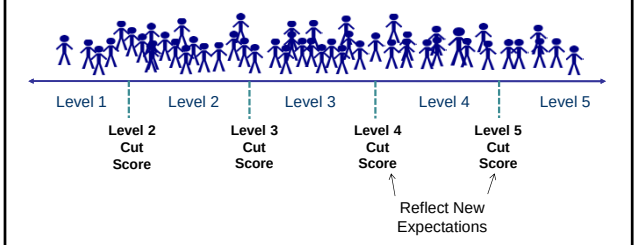

- **We have identified the location of bookmarks in the OIB that are consistent with this policy**
- **We provide a narrow range of items where the bookmarks can be moved that maintain the policy**



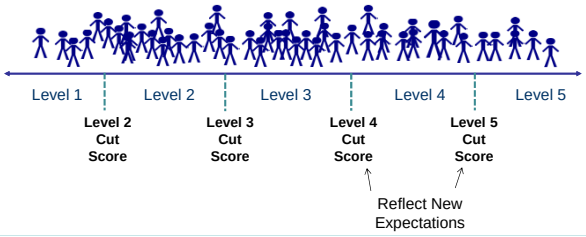



- **Your task**
  - **Review narrow range of items that are consistent with policy**
  - **Select bookmark within the range based on your expert judgment and PLD discussions**
  - **Does not require multiple rounds**






- **Policy Decisions for upper 2 cut scores**
  - **Level 4 and Level 5 cut scores reflect new expectations for students**
  - **By 2022, the Level 4 cut score will be used to decide graduation**




- Your task for these thresholds is to
  - Review each item in sequence and ask yourself whether a student at a given threshold would get an item right most of the time (2/3rds)
  - Identify where in the OIB the answer to that question transitions from Yes to No
  - Multiple rounds with feedback after each round



## Questions?

- Complete Readiness Form



## Policy Review: Level 3 and Level 2



## Policy Review: Level 3 and Level 2

- Policy dictates that the percent of students at or above these two levels should be equivalent to current levels
- Median passing rates over the last 5 years were computed with a confidence band

| | Median Level 3 Pass Rates | Range for Level 3 | Median Level 2 Pass Rates | Range for Level 2 |
|---|---|---|---|---|
| ELA | 77% | 73-81% | 86% | 84-88% |

## Policy Review: Level 3 and Level 2

- Looking at performance on the new Regents Exam, we worked backwards and identified:
  - Bookmark page consistent with the median
  - Narrow range of bookmark locations that reflect variability of passing rates
- When you apply passing rates from older test to new more rigorous test, the bookmark placements will appear early in the OIB
  - Remember bookmark location is not the same as number of points
  - These bookmark locations translate to reasonable number correct scores



## Policy Review: Level 3 and Level 2

- Provide you with small item map that includes
  - Bookmark location corresponding to median passing rate
  - Range of alternative bookmark locations
    - Blue for Level 3
    - Yellow for Level 2
  - Associated passing rates
    - % of students at or above the level



## Policy Review: Level 3 and Level 2

- Task
  - What page number that is in line with the policy directive would you recommend be used?
  - Please provide your rationale
    - Knowledge and skills reflected in items
    - Discussion of PLDs
    - Expert judgment
    - Impact data



## Bookmarking Activities Level 4 and Level 5

## Round 1

## Start Round 1

- Ask yourself the following questions for each threshold
  - **MC Items: Should a student just barely at a threshold be able to get this right 2/3 of the time?**
  - **CR Items: Should a student just barely at a threshold be able to get at least this score point 2/3 of the time?**
- Remember:
  - **Threshold Student Descriptions**
  - **Following order:**
    - Level 3/Level 4
    - Level 4/Level 5
  - **Individual task**



## Next Steps

- Sign in your OIB when you are done
- Breakfast will be available starting at 7:30 tomorrow morning in the Courtyard
- Meet in this room by 8:30 tomorrow morning



## Day 2 Agenda

- Discuss Round 1 Results
- Break
- Round 2
- Lunch
- Discuss Round 2 Results
- Round 3
- Break
- Discuss Round 3 Results



## Discuss Round 1 Results

- Table leader will lead table-level discussions for each threshold:
  - **What is the distribution of bookmark pages?**
  - **How did you determine your bookmark placement?**
    - Use threshold PLD statements to defend your placement

## Break

- Meet back here at 10:15



## Start Round 2

- Ask yourself:
  - MC Items: Should a just barely Level 4 student be able to get this right 2/3 of the time?
  - CR Items: Should a just barely Level 4 student be able to get at least this score point 2/3 of the time?
- Remember:
  - Threshold Student Descriptions
  - Following order:
    - Level 3/Level 4
    - Level 4/Level 5
  - Individual task



## Discuss Round 2 Results

- Table leader will lead table-level discussions for each threshold:
  - Did the distribution of bookmark pages change?
  - How did you determine your bookmark placement?
    - Use threshold PLD statements to defend your placement



## Start Round 3

- Ask yourself:
  - MC Items: Should a just barely Level 4 student be able to get this right 2/3 of the time?
  - CR Items: Should a just barely Level 4 student be able to get at least this score point 2/3 of the time?
- Remember:
  - Use PLDs
  - Following order:
    - Level 3/4
    - Level 4/5
  - Individual task
- When complete, sign in your materials and complete the evaluation form.

## Thank you!

# Appendix F: Policy Verification for Level 2 and Level 3 Bookmark Placements, Exit Survey and Results, Algebra I

# Algebra I (Common Core) Level 2/Level 3 and Level 1/Level 2 Exit Survey Results

1. I understand the Board of Regents policy directive to place constraints on the overall standard setting process, such that the percentage of students who score at Levels 2 and 3 and above on the Common Core Regents Exams will remain comparable to those percentages of students who scored at a 55 and 65 and above on the current Regents Exams (2005 Standards).

| Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 35 | 51.43 | 45.71 | 2.86 | 0 | 3.49 | 0.56 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

2. The impact data (percentages of students at or above the suggested cut scores) presented were helpful to me in evaluating the cut scores.

| Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 33 | 33.33 | 63.64 | 0.00 | 3.03 | 3.27 | 0.63 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

3. I believe that my Level 2/Level 3 cut score fairly represents the minimal level of achievement for students at Level 3, given the policy directive.

| Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 35 | 57.14 | 42.86 | 0.00 | 0.00 | 3.57 | 0.50 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

4. If you answered Moderately Disagree or Strongly Disagree to Question 3, indicate whether you believe the cut score is too high or too low and provide your rationale.

| | Percent Selecting Category | |
|---|---|---|
| Valid *N* | Too High | Too Low |
| 0 | N/A | N/A |

5. I believe that my Level 2/Level 1 cut score fairly represents the minimal level of achievement for students at Level 2, given the policy directive.

| | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| Valid *N* | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 34 | 52.94 | 41.18 | 5.88 | 0.00 | 3.47 | 0.61 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

6. If you answered Moderately Disagree or Strongly Disagree to Question 5, indicate whether you believe the cut score is too high or too low and provide your rationale.

| | Percent Selecting Category | |
|---|---|---|
| Valid *N* | Too High | Too Low |
| 2 | 0.00 | 100.00 |

**Rationale:**

None provided

# Appendix G: Policy Verification of Level 2 and Level 3 Bookmark Placements, Exit Survey and Results, English Language Arts

# English Language Arts (Common Core) Level 2/Level 3 and Level 1/Level 2 Exit Survey and Results

1. I understand the Board of Regents policy directive to place constraints on the overall standard setting process, such that the percentage of students who score at Levels 2 and 3 and above on the Common Core Regents Exams will remain comparable to those percentages of students who scored at a 55 and 65 and above on the current Regents Exams (2005 Standards).

| Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 31 | 67.74 | 29.03 | 0.00 | 3.23 | 3.61 | 0.67 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

2. The impact data (percentages of students at or above the suggested cut scores) presented were helpful to me in evaluating the cut scores.

| Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 31 | 48.39 | 45.16 | 6.45 | 0.00 | 3.42 | 0.62 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

3. I believe that my Level 2/Level 3 cut score fairly represents the minimal level of achievement for students at Level 3, given the policy directive.

| Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 31 | 64.52 | 29.03 | 6.45 | 0.00 | 3.58 | 0.62 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

4. If you answered Moderately Disagree or Strongly Disagree to Question 3, indicate whether you believe the cut score is too high or too low and provide your rationale.

| | Percent Selecting Category | |
|---|---|---|
| Valid *N* | Too High | Too Low |
| 2 | 100.00 | 0.00 |

**Rationale:** None provided

5. I believe that my Level 2/Level 1 cut score fairly represents the minimal level of achievement for students at Level 2, given the policy directive.

| | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|
| Valid *N* | Strongly Agree | Moderately Agree | Moderately Disagree | Strongly Disagree | Avg.[1] | *SD* |
| 31 | 70.97 | 25.81 | 3.23 | 0.00 | 3.68 | 0.54 |

[1]Strongly Agree = 4, Moderately Agree = 3, Moderately Disagree = 2, Strongly Disagree =1

6. If you answered Moderately Disagree or Strongly Disagree to Question 5, indicate whether you believe the cut score is too high or too low and provide your rationale.

| | Percent Selecting Category | |
|---|---|---|
| Valid *N* | Too High | Too Low |
| 1 | 100.00 | 0.00 |

**Rationale:** None provided

## Appendix H: Standard Setting Meeting Exit Survey and Results, Algebra I

# Algebra I (Common Core) Exit Survey and Results

2. Please rate the extent of your agreement with each statement regarding the opening session:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The opening session provided a clear description of the meeting's goals. | 34 | 55.88 | 44.12 | 0 | 0 | 3.56 | 0.5 |
| The opening session helped me understand my tasks. | 34 | 47.06 | 52.94 | 0 | 0 | 3.47 | 0.51 |
| The opening session leaders clearly explained the procedures. | 34 | 47.06 | 50 | 2.94 | 0 | 3.44 | 0.56 |
| The opening session addressed many of my questions and concerns. | 33 | 42.42 | 51.52 | 6.06 | 0 | 3.36 | 0.6 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

3. Please rate the extent of your agreement with each statement regarding the Algebra I or ELA training session:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The training session leader clearly explained the procedures. | 33 | 39.39 | 48.48 | 12.12 | 0 | 3.27 | 0.67 |
| The training session leader clearly explained the materials used in the bookmark process. | 34 | 47.06 | 44.12 | 8.82 | 0 | 3.38 | 0.65 |
| The training helped me understand my tasks. | 33 | 33.33 | 60.61 | 6.06 | 0 | 3.27 | 0.57 |
| The training addressed many of my questions and concerns. | 33 | 36.36 | 54.55 | 9.09 | 0 | 3.27 | 0.63 |
| The training materials were effective in preparing for subsequent tasks. | 32 | 40.63 | 43.75 | 15.63 | 0 | 3.25 | 0.72 |
| The practice exercises were useful. | 34 | 35.29 | 50 | 11.76 | 2.94 | 3.18 | 0.76 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

4. Please rate the extent of your agreement with each statement regarding the performance level descriptions (PLDs):

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| Adequate information was provided to panelists regarding the PLDs. | 34 | 29.41 | 64.71 | 5.88 | 0 | 3.24 | 0.55 |
| Adequate time was provided for panelists to gain understanding of the PLDs. | 34 | 26.47 | 55.88 | 17.65 | 0 | 3.09 | 0.67 |
| The PLDs communicate a reasonable profile of students' achievement at each level. | 34 | 17.65 | 73.53 | 8.82 | 0 | 3.09 | 0.51 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

5. Please rate the extent of your agreement with each statement regarding the threshold performance level descriptions (PLDs):

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The threshold PLD homework helped to prepare me for the standard setting meeting. | 33 | 3.03 | 36.36 | 39.39 | 21.21 | 2.21 | 0.82 |
| Adequate time was provided for panelists to articulate the threshold PLDs. | 32 | 18.75 | 53.13 | 21.88 | 6.25 | 2.84 | 0.81 |
| The threshold PLDs communicate a reasonable profile of students' achievement at each threshold. | 32 | 15.63 | 68.75 | 15.63 | 0 | 3 | 0.57 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

6. Please indicate your opinion regarding the usefulness of the following materials used:

| | Valid *N* | Percent Selecting Category | | | | Avg.[1] | SD |
|---|---|---|---|---|---|---|---|
| | | Very Useful | Useful | Somewhat Useful | Not Useful | | |
| Performance level descriptions | 34 | 64.71 | 23.53 | 11.76 | 0 | 3.53 | 0.71 |
| Operational test book | 32 | 46.88 | 34.38 | 18.75 | 0 | 3.28 | 0.77 |
| Ordered item booklet | 34 | 76.47 | 20.59 | 2.94 | 0 | 3.74 | 0.51 |
| Item map | 34 | 44.12 | 50 | 2.94 | 2.94 | 3.35 | 0.69 |
| Item separation chart | 34 | 44.12 | 44.12 | 8.82 | 2.94 | 3.29 | 0.76 |
| Statistical impact data | 34 | 44.12 | 32.35 | 20.59 | 2.94 | 3.18 | 0.87 |

[1]Very Useful = 4, Useful = 3, Somewhat Useful = 2, Not Useful =1

7. Please indicate the extent of your satisfaction with the following roles:

| | Valid *N* | Percent Selecting Category | | | | Avg.[1] | SD |
|---|---|---|---|---|---|---|---|
| | | Very Satisfied | Satisfied | Partially Satisfied | Not Satisfied | | |
| DRC psychometric lead | 33 | 42.42 | 36.36 | 12.12 | 9.09 | 3.12 | 0.96 |
| DRC room facilitator | 33 | 42.42 | 42.42 | 12.12 | 3.03 | 3.24 | 0.79 |
| DRC content specialist | 33 | 36.36 | 39.39 | 18.18 | 6.06 | 3.06 | 0.9 |
| Other DRC Staff | 32 | 50 | 46.88 | 3.13 | 0 | 3.47 | 0.57 |

[1]Very Satisfied = 4, Satisfied = 3, Partially Satisfied = 2, Not Satisfied =1

8. Please indicate your opinion regarding the amount of time allotted for each activity:

| | Valid *N* | Percent Selecting Category | | | | |
|---|---|---|---|---|---|---|
| | | Too Little Time | About Right | Too Much Time | Avg.[1] | SD |
| Training | 32 | 9.38 | 65.63 | 25 | 2.16 | 0.57 |
| PLD discussion | 32 | 37.5 | 50 | 12.5 | 1.75 | 0.67 |
| Round 1 ratings | 32 | 3.13 | 78.13 | 18.75 | 2.16 | 0.45 |
| Round 1 discussion | 32 | 0 | 90.63 | 9.38 | 2.09 | 0.3 |
| Round 2 ratings | 32 | 0 | 65.63 | 34.38 | 2.34 | 0.48 |
| Round 2 discussion | 31 | 0 | 80.65 | 19.35 | 2.19 | 0.4 |
| Round 3 ratings | 31 | 0 | 77.42 | 22.58 | 2.23 | 0.43 |

[1]Too Little Time = 1, About Right = 2, Too Much Time = 3

9. Please indicate the level of confidence you had in placing the bookmark location for each assessment cut score:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Very Confident | Confident | Partially Confident | Not Confident | Avg.[1] | SD |
| **Level 3/Level 4 cut score** | 32 | 46.88 | 46.88 | 6.25 | 0 | 3.41 | 0.61 |
| **Level 4/Level 5 cut score** | 32 | 53.13 | 40.63 | 6.25 | 0 | 3.47 | 0.62 |

[1]Very Confident = 4, Confident = 3, Partially Confident = 2, Not Confident =1

10. Please rate the extent of your agreement with each statement regarding the processes and results:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The processes and methods used will produce appropriate results. | 31 | 41.94 | 48.39 | 9.68 | 0 | 3.32 | 0.65 |
| My bookmark placements accurately represent the PLDs. | 32 | 50 | 50 | 0 | 0 | 3.5 | 0.51 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

# Appendix I: Standard Setting Meeting Exit Survey and Results, English Language Arts

# English Language Arts (Common Core) Exit Survey and Results

2. Please rate the extent of your agreement with each statement regarding the opening session:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The opening session provided a clear description of the meeting's goals. | 30 | 36.67 | 60.00 | 3.33 | 0.00 | 3.33 | 0.55 |
| The opening session helped me understand my tasks. | 30 | 40.00 | 56.67 | 3.33 | 0.00 | 3.37 | 0.56 |
| The opening session leaders clearly explained the procedures. | 30 | 43.33 | 53.33 | 3.33 | 0.00 | 3.40 | 0.56 |
| The opening session addressed many of my questions and concerns. | 29 | 31.03 | 62.07 | 6.90 | 0.00 | 3.24 | 0.58 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

3. Please rate the extent of your agreement with each statement regarding the Algebra I or ELA training session:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The training session leader clearly explained the procedures. | 30 | 26.67 | 66.67 | 6.67 | 0.00 | 3.20 | 0.55 |
| The training session leader clearly explained the materials used in the bookmark process. | 30 | 36.67 | 60.00 | 3.33 | 0.00 | 3.33 | 0.55 |
| The training helped me understand my tasks. | 30 | 43.33 | 53.33 | 3.33 | 0.00 | 3.40 | 0.56 |
| The training addressed many of my questions and concerns. | 30 | 36.67 | 56.67 | 6.67 | 0.00 | 3.30 | 0.60 |
| The training materials were effective in preparing for subsequent tasks. | 30 | 33.33 | 66.67 | 0.00 | 0.00 | 3.33 | 0.48 |
| The practice exercises were useful. | 30 | 13.33 | 53.33 | 33.33 | 0.00 | 2.80 | 0.66 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

4. Please rate the extent of your agreement with each statement regarding the performance level descriptions (PLDs):

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| Adequate information was provided to panelists regarding the PLDs. | 29 | 31.03 | 51.72 | 17.24 | 0.00 | 3.14 | 0.69 |
| Adequate time was provided for panelists to gain understanding of the PLDs. | 29 | 37.93 | 44.83 | 17.24 | 0.00 | 3.21 | 0.73 |
| The PLDs communicate a reasonable profile of students' achievement at each level. | 29 | 27.59 | 68.97 | 3.45 | 0.00 | 3.24 | 0.51 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

5. Please rate the extent of your agreement with each statement regarding the threshold performance level descriptions (PLDs):

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The threshold PLD homework helped to prepare me for the standard setting meeting. | 29 | 34.48 | 41.38 | 24.14 | 0.00 | 3.10 | 0.77 |
| Adequate time was provided for panelists to articulate the threshold PLDs. | 29 | 34.48 | 41.38 | 24.14 | 0.00 | 3.10 | 0.77 |
| The threshold PLDs communicate a reasonable profile of students' achievement at each threshold. | 29 | 27.59 | 51.72 | 17.24 | 3.45 | 3.03 | 0.78 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1

6. Please indicate your opinion regarding the usefulness of the following materials used:

| | Valid *N* | Percent Selecting Category | | | | Avg.[1] | SD |
|---|---|---|---|---|---|---|---|
| | | Very Useful | Useful | Somewhat Useful | Not Useful | | |
| Performance level descriptions | 29 | 51.72 | 41.38 | 6.90 | 0.00 | 3.45 | 0.63 |
| Operational test book | 29 | 62.07 | 27.59 | 6.90 | 3.45 | 3.48 | 0.78 |
| Ordered item booklet | 29 | 79.31 | 20.69 | 0.00 | 0.00 | 3.79 | 0.41 |
| Item map | 29 | 55.17 | 41.38 | 3.45 | 0.00 | 3.52 | 0.57 |
| Item separation chart | 29 | 55.17 | 31.03 | 13.79 | 0.00 | 3.41 | 0.73 |
| Statistical impact data | 29 | 41.38 | 41.38 | 13.79 | 3.45 | 3.21 | 0.82 |

[1]Very Useful = 4, Useful = 3, Somewhat Useful = 2, Not Useful =1

7. Please indicate the extent of your satisfaction with the following roles:

| | Valid *N* | Percent Selecting Category | | | | Avg.[1] | SD |
|---|---|---|---|---|---|---|---|
| | | Very Satisfied | Satisfied | Partially Satisfied | Not Satisfied | | |
| DRC psychometric lead | 29 | 51.72 | 44.83 | 3.45 | 0.00 | 3.48 | 0.57 |
| DRC room facilitator | 29 | 41.38 | 55.17 | 3.45 | 0.00 | 3.38 | 0.56 |
| DRC content specialist | 28 | 46.43 | 39.29 | 10.71 | 3.57 | 3.29 | 0.81 |
| Other DRC Staff | 29 | 48.28 | 51.72 | 0.00 | 0.00 | 3.48 | 0.51 |

[1]Very Satisfied = 4, Satisfied = 3, Partially Satisfied = 2, Not Satisfied =1

8. Please indicate your opinion regarding the amount of time allotted for each activity:

| | Valid *N* | Percent Selecting Category | | | | |
|---|---|---|---|---|---|---|
| | | Too Little Time | About Right | Too Much Time | Avg.[1] | SD |
| Training | 28 | 21.43 | 71.43 | 7.14 | 1.86 | 0.52 |
| PLD discussion | 28 | 25 | 46.43 | 28.57 | 2.04 | 0.74 |
| Round 1 ratings | 28 | 25 | 71.43 | 3.57 | 1.79 | 0.5 |
| Round 1 discussion | 28 | 0 | 78.57 | 21.43 | 2.21 | 0.42 |
| Round 2 ratings | 28 | 0 | 67.86 | 32.14 | 2.32 | 0.48 |
| Round 2 discussion | 28 | 0 | 57.14 | 42.86 | 2.43 | 0.5 |
| Round 3 ratings | 28 | 0 | 85.71 | 14.29 | 2.14 | 0.36 |

[1]Too Little Time = 1, About Right = 2, Too Much Time = 3

9. Please indicate the level of confidence you had in placing the bookmark location for each assessment cut score:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Very Confident | Confident | Partially Confident | Not Confident | Avg.[1] | SD |
| **Level 3/Level 4 cut score** | 28 | 53.57 | 39.29 | 7.14 | 0.00 | 3.46 | 0.64 |
| **Level 4/Level 5 cut score** | 28 | 60.71 | 32.14 | 7.14 | 0.00 | 3.54 | 0.64 |

[1]Very Confident = 4, Confident = 3, Partially Confident = 2, Not Confident =1

10. Please rate the extent of your agreement with each statement regarding the processes and results:

| | Valid *N* | Percent Selecting Category | | | | | |
|---|---|---|---|---|---|---|---|
| | | Strongly Agree | Agree | Disagree | Strongly Disagree | Avg.[1] | SD |
| The processes and methods used will produce appropriate results. | 28 | 21.43 | 71.43 | 7.14 | 0.00 | 3.14 | 0.52 |
| My bookmark placements accurately represent the PLDs. | 28 | 46.43 | 50.00 | 3.57 | 0.00 | 3.43 | 0.57 |

[1]Strongly Agree = 4, Agree = 3, Disagree = 2, Strongly Disagree =1