

The Washington State Board of Education

Governance | Accountability | Achievement | Oversight | Career & College Readiness

Title:	Cut Scores for Year 1 and Year 2 Mathematics Collections of Evidence	
As Related To:	<input type="checkbox"/> Goal One: Effective and accountable P-13 governance. <input checked="" type="checkbox"/> Goal Two: Comprehensive statewide K-12 accountability. <input type="checkbox"/> Goal Three: Closing achievement gap.	<input checked="" type="checkbox"/> Goal Four: Strategic oversight of the K-12 system. <input checked="" type="checkbox"/> Goal Five: Career and college readiness for all students. <input type="checkbox"/> Other
Relevant To Board Roles:	<input checked="" type="checkbox"/> Policy Leadership <input checked="" type="checkbox"/> System Oversight <input type="checkbox"/> Advocacy	<input type="checkbox"/> Communication <input type="checkbox"/> Convening and Facilitating
Policy Considerations / Key Questions:	SBE is asked to consider approval of the recommended cut scores for the Mathematics Year 1 and Year 2 Collections of Evidence	
Possible Board Action:	<input checked="" type="checkbox"/> Review <input checked="" type="checkbox"/> Adopt <input checked="" type="checkbox"/> Approve <input type="checkbox"/> Other	
Materials Included in Packet:	<input checked="" type="checkbox"/> Memo <input type="checkbox"/> Graphs / Graphics <input checked="" type="checkbox"/> Third-Party Materials <input checked="" type="checkbox"/> PowerPoint	
Synopsis:	<p>The State Board of Education (SBE) is required, under RCW 28A.305.130(4)(b), to identify the scores high school students must achieve to meet standard in statewide student assessment and obtain a certificate of academic achievement. The SBE sets performance standards and levels in consultation with the Superintendent of Public Instruction. The Office of the Superintendent of Public Instruction will ask the SBE to consider approval of the cut scores for Mathematics Year 1 and Mathematics Year 2 Collections of Evidence (COE). The COE is an evaluation of a set of work samples based on classroom work prepared by the student with instructional support from a teacher. The COE is an alternative assessment available to high school students to demonstrate they have met standards.</p> <p>At the April 2008 Special Meeting, the SBE approved the process and cut scores for the Reading and Writing COEs.</p> <p>The Class of 2013 is the first class that must pass a math End-of-Course exams for graduation. COEs in mathetics are alternative assessments to the math End-of-Course exams.</p>	

CUT SCORES FOR YEAR 1 AND YEAR 2 MATHEMATICS COLLECTIONS OF EVIDENCE

Policy Consideration

RCW 28A.655.066 adds additional requirements to Washington high school students graduating in 2013 and 2014: students in these classes need to pass one mathematics End of Course Exam (EOC) as a graduation requirement. In addition, starting with the class of 2015, students will need to pass two mathematics EOCs.

As EOCs become part of graduation requirements, approved alternative to the EOCs will be implemented to provide options for student. Collection of Evidence (COE) is an approved alternative to state assessments consisting of an evaluation of a set of work samples based on classroom work prepared by the student with instructional support from a teacher. It has been the most frequently used alternative assessment for reading and writing, and is likely to be the most frequently used alternative for mathematics as well.

COEs are an important option for students who do not do well demonstrating their skills and knowledge through standardized tests. Furthermore, the results for COEs in reading and writing do not show achievement gaps for student groups that are evident in the High School Proficiency Exam results, suggesting that COEs are helpful in providing an opportunity for all students to demonstrate achievement.

The State Board of Education (SBE) is required, under RCW 28A.305.130(4)(b), to identify the scores high school students must achieve to meet standard in statewide student assessment and obtain a certificate of academic achievement. The Mathematics Year 1 and Mathematics Year 2 COEs are alternatives to statewide student assessments for which the SBE must set cut scores. Since passing an EOC is required for the Class of 2013, this year is the first year that COEs in mathematics must be implemented.

Background

Collections of Evidence have been an accepted alternative to statewide student assessments since 2008 in reading and writing. ESSB 6475 enacted in the 2006 legislative session directed OSPI to implement an evaluation of a collection of student work as an alternative assessment method. In April, 2008, the SBE approved the process and cut scores for the Reading and Writing COEs.

About 3,000 to 4,000 COEs are scored each year for reading and writing combined. In 2011, approximately 1.9% of students participating in Writing COEs and 3.7% of students participated in Reading COEs. The percent of students meeting standard is 82.3% for the Reading COE and 65.8% for the Writing COE (averaged for 2009-2011).

To be eligible for participating in a COE, students have to have attempted the High School Proficiency Exam (for reading and writing) or the EOC (in mathematics) and been unsuccessful in meeting standards. For the 2012-13 school year only, students who are in 12th grade are required to attempt and not pass a state assessment only one time before attempting a COE. For students graduating in the Class of 2014 and beyond, students must have not met standard two times prior to being eligible to submit a COE.

The requirement for the SBE to approve scores and consult with OSPI on the state academic assessment system is described in statute:

RCW 28A.305.130 requires the State Board of Education (SBE) to “identify the scores students must achieve in order to meet the standard on the statewide assessment... [and to] determine student scores that identify levels of student performance below and beyond standard.” It also requires SBE to “annually review the assessment reporting system to ensure fairness, accuracy, timeliness, and equity of opportunity, especially with regard to schools with special circumstances and unique populations of students.”

RCW 28A.655.070 (3)(a) states that “In consultation with the state board of education, the superintendent of public instruction shall maintain and continue to develop and revise a statewide academic assessment system in the content areas of reading, writing, mathematics and science for use in the elementary, middle, and high school years designed to determine if each student has mastered the essential academic learning requirements....”

Action

The Board will be asked to approve the cut scores for the performance level of “Met/Not Met” for the Mathematics Year 1 and Mathematics Year 2 Collections of Evidence as recommended by the Superintendent of Public Instruction.

Mathematics Collections of Evidence: Summary of Standard Setting Process

The standard setting panel meeting for the Mathematics Collections of Evidence (COE) will be held in Olympia, WA between March 25 and 27, 2013. The purpose of the standard setting panel and articulation meeting is to establish the recommended performance standards for the Mathematics Collections of Evidence.

A “body of work” procedure will be used for the standard setting. After each round of ratings from panelists, graphic displays of the panelist’s ratings will be presented with additional information. Raw scores on each collection will also be provided during round two and test-level impact data during the third round of rating.

An Articulation Committee, consisting of three volunteers from each course-level panel will be convened immediately following the standard setting session to examine the recommendations for both courses.

The State Board of Education meeting will be held on March 29, 2013. The recommendations by the course-level panels and the Articulation Committee will be presented. The State Board of Education will review the recommendations and establish the final performance level cut scores.

Background Information

End-of-course exams for high school math debuted in spring 2011 as required by state law RCW 28A.655.066. These end-of-course (EOC) exams in Algebra/Integrated Mathematics 1 (Year 1) and Geometry/Integrated Mathematics 2 (Year 2) have replaced the mathematics High School Proficiency Exam (HSPE). Following the Spring 2011 test administration, new performance standards for the High School Mathematics EOC exams were established in Summer 2011.

The Collection of Evidence (COE) is a legislatively-approved alternative assessment option that high school students may access in order to demonstrate they have the skills and knowledge necessary to meet state standards at the high school level in mathematics. Participation in the COE is restricted to those students who fail to reach the Proficient level on the end-of-course exams.

Purpose of COE Standard Setting

The legislation requires that the COE performance standard be of equal or greater rigor than the performance standards for the Mathematics End-of-Course (EOC) exams. To enhance the link with the EOC standards, the standard setting plan will make use of a portion of the ordered item booklet used in standard setting for the EOC exams in 2011. In addition, panelists will be trained in the Performance Level Descriptors (PLDs) that served as the basis for the EOC standard setting.

Standard Setting Committees

The Mathematics Year 1 and Year 2 committees will consist of 15 members each for a total of 30 participants. These members are high school math teachers, math instructional coaches, and other subject matter experts. Each person who was selected for this process represents the knowledge and understanding of his or her peers, lending a balance between diverse opinion and consensus.

The Standard Setting Plan

The “Body of Work” methodology will be used for this standard setting. This method typically entails two stages:

- Range-finding stage: Panelists select actual student collections representing a somewhat narrow range within which the cut score will fall.
- Pinpointing stage: Panelists identify the cut score using student collections as examples of intended performance.

The panel will be trained on content standards for mathematics and the “Performance Level Descriptors” (PLDs) used by the 2011 Year 1 and Year 2 EOC standard setting panels for the “Met/Not Met” line. PLDs are a bridge between the EOC and the COE.

To enhance the training on the PLDs, each panel member will review an ordered item booklet modified from the EOC standard setting to include only the items around the “Met/Not Met” line. These items strengthen the link between the EOC and the COE.

The panel will be trained on the development, scoring, and augmentation processes for the COE. Each panel member will complete a unique performance task from the inclusion bank. The tasks and scoring rubrics for COE will be shared with the content panel.

The panel will then be trained on the standard setting procedures for each of the three rounds. The training concludes with the teachers responding to a questionnaire to identify any misconceptions the panelists’ may have and to allow for additional discussion or clarification of the standard setting process.

Round 1 - Set the range of scores:

A set of 20 COEs will be selected to create a rectangular distribution across the effective range of scores found in the population. The set of collections will be ordered according to total points. Panelists will narrow the range of collections to those that encompassed the “Met/Not Met” range, or “gray area.”

Round 2 – First pinpointing:

A “feedback matrix” showing the group’s ratings will be provided to the panelists to stimulate small group discussion after the Round One selections. Panelists will then use an enhanced set of 20 collections, which will include the collections identified as encompassing the “gray area” and additional collections in that same score range. A table containing the raw scores for the 20 collections will also be provided. Panelists will

independently classify each collection as to whether or not it represents a “Proficient” body of work.

Round 3 – Second Pinpointing:

An anonymous “feedback matrix” showing the group’s ratings and including the average selection from Round 2 will be provided to the panelists. A frequency distribution of obtained raw scores from all students submitting a COE in Winter 2013 will also be provided. This information will be used in small group discussion after the Round Two selections. Panelists will independently select the collection that demonstrates a “Proficient” body of work for a second time, drawing upon the small group discussion.

Articulation Committee

The Articulation committee will convene after the standard setting process is completed. This committee will consist of 6 members – 3 from Year 1 and 3 from Year 2 committees. Their task will be to examine the cuts scores and impact data from the standard setting and make comments and/or recommendations for changes to the cut scores. The results from this committee and those of the standard setting panels will be presented to the State Board.

**Mathematics Year 1 and Year 2 Collection of Evidence Standard
Setting
AGENDA**

**Educational Service District (ESD) 113
6005 Tyee Drive SW, Tumwater, WA 98512**

March 25-27: Year 1 Mathematics and Year 2 Mathematics COE Panels
March 27: Year 1 Mathematics and Year 2 Mathematics COE Articulation Panels
March 29: Cut Scores Set by State Board

Day 1

9:00

Welcome and Orientation (Total Group)
Administrative Tasks (Total Group)
Judge Selection Process and Criteria (Total Group)
Description of Standard Setting Process (Total Group)

- Purpose of Assessments
- Overview of Standard Setting Process
- Role of Standard Setting Panels

Break

Review of the Agenda

Review of Assessments (Total Group)

- Training on the standards
- COE Development, Scoring and Augmentation Processes
- EOC Test Blueprint and COE Blueprint

Lunch

Taking the "Assessment" (Course Groups)

- Discuss tasks and rubrics
- Provide one task/person
- Different tasks for each person in the table group, chosen so the table closely represents a collection

Scoring the Tasks (Course Groups)

Break

Review of the Performance Level Descriptors (Course Groups)

PLDs as the bridge between EOC and COE

Ordered Item Booklets including "location" (difficulty) of each item

- Staff Presentation
- Small Table Discussion

5:00

Adjourn

Mathematics Year 1 and Year 2 Collection of Evidence Standard Setting

AGENDA, page 2

Day 2

9:00

Continued Small Table Discussion of PLDs (Course Groups)

Break

Total Grade Level Group Discussion (Course Groups)

Summary of Standard Setting Procedure (Total Group)

Distribute questionnaire discuss results

Lunch

Round 1 Ratings - "Rangefinding" (Individual)

Identify "gray area" using approximately 20 collections

- Score not included on the collections, ranked low to high
-

Break

Feedback and Discussion

- Present summary sheet with total raw score for each collection in binder
- Present scatter plot of group ratings
- Table groups arrive at a consensus gray area

4:45

Adjourn

Day 3

9:00

Discuss procedure for Round 2 ratings: pinpointing vs. gray area

Round 2 Ratings – "Pinpointing #1"

- Provide an expanded "gray area" set of collections
- Total score on each collection on a separate lookup table

Break

Feedback and Discussion of round 2 ratings (Course Groups)

- Presentation of Impact Data, frequency distribution
 - Small table discussions
 - Large course level group discussion

Lunch

Round 3 Ratings (individual)

Discussion of all grade level results (Total Group)

- Presentation of final results
- Announcement of Articulation Committee members
- Recommendations to Articulation Committee
- Complete Evaluations

End of standard setting, adjourn group

2:30

Articulation Committee

4:30

Adjourn