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*Release of  
November 2021  
MCAS Test Information  
from the  
Next-Generation High School  
ELA and Math Retests*

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**November 2021  
Massachusetts Department of  
Elementary and Secondary Education**

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This document was prepared by the  
Massachusetts Department of Elementary and Secondary Education  
Jeffrey C. Riley  
Commissioner

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Massachusetts Department of Elementary and Secondary Education  
75 Pleasant Street, Malden, MA 02148-4906  
Phone 781-338-3000 TTY: N.E.T. Relay 800-439-2370  
[www.doe.mass.edu](http://www.doe.mass.edu)



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# I. Document Purpose and Structure

# *Document Purpose and Structure*

## **Purpose**

The purpose of this document is to share with educators and the public information regarding the November 2021 MCAS next-generation English Language Arts (ELA) and Mathematics retests, including the reporting category and standard associated with each item. The Department does not currently release items from the November retests. All items continue to be released for the spring grade 10 tests.

## **Structure**

Chapters II and III of this document contain, respectively, information for the November 2021 next-generation ELA and Mathematics retests. Each of these chapters has two sections.

The **first section** provides a brief overview of the retest, including test format and item types. The Mathematics Reference Sheet used by students during MCAS Mathematics test sessions appears at the end of the first section of the Mathematics chapter.

The **second section** of each chapter are tables that cross-reference each item on the computer-based test and the paper-based test with its MCAS reporting category and with the *Framework* standard it assesses. The tables show how the items on the test assess standards in the 2017 frameworks.

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## II. English Language Arts Retest

# *English Language Arts Retest*

The November 2021 next-generation English Language Arts retest was administered in two primary formats: a computer-based version and a paper-based version. Most students took the computer-based test. The paper-based test was offered as an accommodation for students with disabilities who are unable to use a computer, as well as for English learners who are new to the country and are unfamiliar with technology.

The tables at the end of this chapter provide information about each item from both the computer-based and paper-based tests, including reporting category, standard(s) covered, item type, and item description.

## **A Note about Testing Mode**

Most of the operational items on the computer-based and paper-based versions of the next-generation ELA retest were the same. In places where a technology-enhanced item was used on the computer-based test, an adapted version of the item was created for use on the paper test. These adapted paper items were multiple-choice or multiple-select items that tested the same ELA content and assessed the same standard as the technology-enhanced item.

## **Test Sessions and Content Overview**

The next-generation ELA retest was made up of two separate test sessions. Each session included reading passages, followed by selected-response and essay questions. On the paper-based test, the selected-response questions were multiple-choice items and multiple-select items, in which students select the correct answer(s) from among several answer options.

## **Standards and Reporting Categories**

The next-generation ELA retest was based on grades 6–12 learning standards in three content strands of the *Massachusetts Curriculum Framework for English Language Arts and Literacy* (2017), listed below.

- Reading
- Writing
- Language

*The Massachusetts Curriculum Framework for English Language Arts and Literacy* is available on the Department website at [www.doe.mass.edu/frameworks/current.html](http://www.doe.mass.edu/frameworks/current.html).

ELA test results are reported under three MCAS reporting categories, which are identical to the three framework content strands listed above.

## **Reference Materials**

During both ELA test sessions, the use of bilingual word-to-word dictionaries was allowed for current and former English learner students only. No other reference materials were allowed during any ELA test session.

**November 2021 Next-Generation English Language Arts Retest  
Computer-Based Operational Items**

<b>CBT Item No.</b>	<b>Reporting Category</b>	<b>Standard</b>	<b>Item Type*</b>	<b>Item Description</b>
1	<i>Reading</i>	RI.9-10.5	SR	Analyze how an author develops an argument in a section of an excerpt.
2	<i>Reading</i>	RI.9-10.5	SR	Determine the meaning of a phrase in an excerpt based on context.
3	<i>Reading</i>	RI.9-10.6	SR	Identify the significance of the title of an excerpt.
4	<i>Reading</i>	RI.9-10.5	SR	Analyze the reason why an author includes a section in an excerpt.
5	<i>Reading</i>	RI.9-10.3	SR	Evaluate and compare how a section of one excerpt relates to another excerpt.
6	<i>Reading</i>	RI.9-10.5	SR	Identify similarities in the authors' use of details to support and develop claims in two excerpts on similar topics.
7	<i>Reading</i>	RI.9-10.6	SR	Determine the author's point of view in an excerpt; identify evidence from another excerpt on a similar topic that supports this point of view.
8	<i>Reading</i>	RI.9-10.6	SR	Identify which quotations from two excerpts present positive views on a topic and which present negative views.
9	<i>Language, Writing</i>	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.1, W.9-10.4	ES	Write an essay making an argument based on evidence from two excerpts on a similar topic; use evidence from both excerpts for support.
10	<i>Reading</i>	RL.9-10.2	SR	Identify a main idea emphasized by lines in a poem.
11	<i>Reading</i>	RL.9-10.4	SR	Interpret the effect of lines in a poem.
12	<i>Reading</i>	RL.9-10.1	SR	Make an inference based on details from a poem.
13	<i>Reading</i>	RL.9-10.2	SR	Determine a central idea of a poem and details that support it.
14	<i>Reading</i>	RL.9-10.1	SR	Determine which detail from an excerpt best supports a central idea of the excerpt.
15	<i>Language</i>	L.9-10.4	SR	Determine which phrase from an excerpt provides a context clue for understanding a word.
16	<i>Reading</i>	RL.9-10.1	SR	Make an inference about a character based on details from the excerpt.
17	<i>Reading</i>	RL.9-10.5	SR	Determine which sentence from an excerpt foreshadows a change in mood.
18	<i>Language</i>	L.9-10.4	SR	Determine the meaning of an unfamiliar word based on context.
19	<i>Reading</i>	RL.9-10.3	SR	Interpret characters' reactions to another character in a section of an excerpt.
20	<i>Reading</i>	RL.9-10.6	SR	Make an inference about a group of people described in an excerpt and identify evidence from the excerpt to support the inference.
21	<i>Reading</i>	RL.9-10.2	SR	Identify details from an excerpt that support a central idea of the excerpt.
22	<i>Language, Writing</i>	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.2, W.9-10.4	ES	Write an essay explaining how an author portrays a specific idea in an excerpt; use details from the excerpt to support the explanation.
23	<i>Reading</i>	RI.9-10.3	SR	Analyze how an author introduces ideas in an excerpt.
24	<i>Language</i>	L.9-10.4	SR	Determine the meaning of an unfamiliar word based on context.



<b>CBT Item No.</b>	<b>Reporting Category</b>	<b>Standard</b>	<b>Item Type*</b>	<b>Item Description</b>
25	<i>Language</i>	L.9-10.3	SR	Determine the reason an author uses quotation marks in an article.
26	<i>Reading</i>	RI.9-10.1	SR	Make an inference comparing ideas addressed in three texts on similar topics.
27	<i>Reading</i>	RI.9-10.3	SR	Determine which paragraph from an article presents an idea similar to an idea expressed in another article on a similar topic.
28	<i>Reading</i>	RI.9-10.1	SR	Make an inference based on ideas from three texts on the same topic.
29	<i>Reading</i>	RI.9-10.2	SR	Determine which central idea is developed in a quotation from an excerpt and select evidence from an article on a similar topic that supports a similar idea.
30	<i>Reading</i>	RI.9-10.2	SR	Determine which quotations from three texts on similar topics support stated central ideas shared by the texts.

\* ELA item types are selected-response (SR) and essay (ES).

**November 2021 Next-Generation English Language Arts Retest  
Paper-Based Operational Items**

<b>PBT Item No.</b>	<b>Reporting Category</b>	<b>Standard</b>	<b>Item Type*</b>	<b>Item Description</b>
1	<i>Reading</i>	RI.9-10.5	SR	Analyze how an author develops an argument in a section of an excerpt.
2	<i>Reading</i>	RI.9-10.5	SR	Determine the meaning of a phrase in an excerpt based on context.
3	<i>Reading</i>	RI.9-10.6	SR	Identify the significance of the title of an excerpt.
4	<i>Reading</i>	RI.9-10.5	SR	Analyze the reason why an author includes a section in an excerpt.
5	<i>Reading</i>	RI.9-10.3	SR	Evaluate and compare how a section of one excerpt relates to another excerpt.
6	<i>Reading</i>	RI.9-10.5	SR	Identify similarities in the authors' use of details to support and develop claims in two excerpts on similar topics.
7	<i>Reading</i>	RI.9-10.6	SR	Determine the author's point of view in an excerpt; identify evidence from another excerpt on a similar topic that supports this point of view.
8	<i>Reading</i>	RI.9-10.6	SR	Identify which quotations from two excerpts present positive views on a topic and which present negative views.
9	<i>Language, Writing</i>	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.1, W.9-10.4	ES	Write an essay making an argument based on evidence from two excerpts on a similar topic; use evidence from both excerpts for support.
10	<i>Reading</i>	RL.9-10.2	SR	Identify a main idea emphasized by lines in a poem.
11	<i>Reading</i>	RL.9-10.4	SR	Interpret the effect of lines in a poem.
12	<i>Reading</i>	RL.9-10.1	SR	Make an inference based on details from a poem.
13	<i>Reading</i>	RL.9-10.2	SR	Determine a central idea of a poem and details that support it.
14	<i>Reading</i>	RL.9-10.1	SR	Determine which detail from an excerpt best supports a central idea of the excerpt.
15	<i>Language</i>	L.9-10.4	SR	Determine which phrase from an excerpt provides a context clue for understanding a word.
16	<i>Reading</i>	RL.9-10.1	SR	Make an inference about a character based on details from the excerpt.
17	<i>Reading</i>	RL.9-10.5	SR	Determine which sentence from an excerpt foreshadows a change in mood.
18	<i>Language</i>	L.9-10.4	SR	Determine the meaning of an unfamiliar word based on context.
19	<i>Reading</i>	RL.9-10.3	SR	Interpret characters' reactions to another character in a section of an excerpt.
20	<i>Reading</i>	RL.9-10.6	SR	Make an inference about a group of people described in an excerpt and identify evidence from the excerpt to support the inference.
21	<i>Reading</i>	RL.9-10.2	SR	Identify details from an excerpt that support a central idea of the excerpt.
22	<i>Language, Writing</i>	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.2, W.9-10.4	ES	Write an essay explaining how an author portrays a specific idea in an excerpt; use details from the excerpt to support the explanation.
23	<i>Reading</i>	RI.9-10.3	SR	Analyze how an author introduces ideas in an excerpt.
24	<i>Language</i>	L.9-10.4	SR	Determine the meaning of an unfamiliar word based on context.

<b>PBT Item No.</b>	<b>Reporting Category</b>	<b>Standard</b>	<b>Item Type*</b>	<b>Item Description</b>
25	<i>Language</i>	L.9-10.3	SR	Determine the reason an author uses quotation marks in an article.
26	<i>Reading</i>	RI.9-10.1	SR	Make an inference comparing ideas addressed in three texts on similar topics.
27	<i>Reading</i>	RI.9-10.3	SR	Determine which paragraph from an article presents an idea similar to an idea expressed in another article on a similar topic.
28	<i>Reading</i>	RI.9-10.1	SR	Make an inference based on ideas from three texts on the same topic.
29	<i>Reading</i>	RI.9-10.2	SR	Determine which central idea is developed in a quotation from an excerpt and select evidence from an article on a similar topic that supports a similar idea.
30	<i>Reading</i>	RI.9-10.2	SR	Determine which quotations from three texts on similar topics support stated central ideas shared by the texts.

\* ELA item types are selected-response (SR) and essay (ES).

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### III. Mathematics Retest

# Mathematics Retest

The November 2021 next-generation Mathematics retest was administered in two primary formats: a computer-based version and a paper-based version. Most students took the computer-based test. The paper-based test was offered as an accommodation for students with disabilities who are unable to use a computer, as well as for English learners who are new to the country and are unfamiliar with technology.

The tables at the end of this chapter provide information about each item from both the computer-based and paper-based tests, including reporting category, standard covered, item type, and item description.

## A Note about Testing Mode

Most of the operational items on the computer-based and paper-based versions of the next-generation Mathematics retest were the same. In places where a technology-enhanced item was used on the computer-based test, an adapted version of the item was created for use on the paper test. These adapted paper items were multiple-choice, multiple-select, or short-answer items that tested the same Mathematics content and assessed the same standard as the technology-enhanced item.

## Test Sessions and Content Overview

The Mathematics retest was made up of two separate test sessions. Each session included selected-response, short-answer, and constructed-response questions. On the paper-based test, the selected-response questions were multiple-choice items and multiple-select items, in which students select the correct answer(s) from among several answer options.

## Standards and Reporting Categories

The Mathematics retest was based on high school standards in the *Massachusetts Curriculum Framework for Mathematics* (2017). The standards in the 2017 framework are organized under the five major conceptual categories listed below.

- Number and Quantity
- Algebra
- Functions
- Geometry
- Statistics and Probability

The Mathematics retest assessed standards that overlap between the Model Algebra I/Model Geometry and Model Mathematics I/Model Mathematics II courses. The *Massachusetts Curriculum Framework for Mathematics* is available on the Department website at [www.doe.mass.edu/frameworks/current.html](http://www.doe.mass.edu/frameworks/current.html).

Mathematics test results for grade 10 are reported under four MCAS reporting categories, which are based on the five framework conceptual categories listed above.

## **Spanish-Language Edition**

Since approximately 55% of English learner students in Massachusetts public schools are native Spanish speakers, a Spanish-language edition of the Mathematics retest was made available to eligible Spanish-speaking students. The computer-based version of the Spanish-language edition presented the Spanish translation above the English text for each item. The booklets for the paper-based version of the Spanish-language edition were issued in side-by-side English/Spanish format: pages on the left side of each booklet presented items in Spanish; pages on the right side presented the same items in English.

## **Reference Materials and Tools**

Each student taking the Mathematics retest was provided with a grade 10 Mathematics Reference Sheet. A copy of the reference sheet can be found on the next page of this document.

During Session 2, each student had sole access to a calculator. Calculator use was not allowed during Session 1.

During both Mathematics test sessions, the use of bilingual word-to-word dictionaries was allowed for current and former English learner students only. No other reference tools or materials were allowed.

**CONVERSIONS**

- |                                  |                                   |                                  |
|----------------------------------|-----------------------------------|----------------------------------|
| 1 cup = 8 fluid ounces           | 1 inch = 2.54 centimeters         | 1 pound = 16 ounces              |
| 1 pint = 2 cups                  | 1 meter $\approx$ 39.37 inches    | 1 pound $\approx$ 0.454 kilogram |
| 1 quart = 2 pints                | 1 mile = 5280 feet                | 1 kilogram $\approx$ 2.2 pounds  |
| 1 gallon = 4 quarts              | 1 mile = 1760 yards               | 1 ton = 2000 pounds              |
| 1 gallon $\approx$ 3.785 liters  | 1 mile $\approx$ 1.609 kilometers |                                  |
| 1 liter $\approx$ 0.264 gallon   | 1 kilometer $\approx$ 0.62 mile   |                                  |
| 1 liter = 1000 cubic centimeters |                                   |                                  |

**AREA (A) FORMULAS**

- square . . . . .  $A = s^2$
- rectangle . . . . .  $A = lw$
- parallelogram . . . . .  $A = bh$
- triangle . . . . .  $A = \frac{1}{2}bh$
- trapezoid . . . . .  $A = \frac{1}{2}h(b_1 + b_2)$
- circle . . . . .  $A = \pi r^2$

**TOTAL SURFACE AREA (SA) FORMULAS**

- cube . . . . .  $SA = 6s^2$
- right square pyramid . . . .  $SA = s^2 + 2sl$   
( $l$  = slant height)
- right rectangular prism . .  $SA = 2(lw) + 2(hw) + 2(lh)$

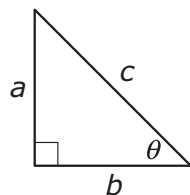
**VOLUME (V) FORMULAS**

- cube . . . . .  $V = s^3$   
( $s$  = length of an edge)
- prism . . . . .  $V = Bh$
- cylinder . . . . .  $V = \pi r^2 h$
- cone . . . . .  $V = \frac{1}{3}\pi r^2 h$
- pyramid . . . . .  $V = \frac{1}{3}Bh$
- sphere . . . . .  $V = \frac{4}{3}\pi r^3$

**CIRCLE FORMULAS**

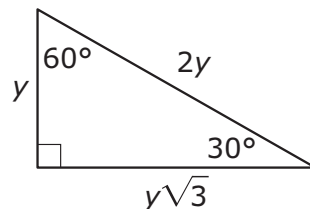
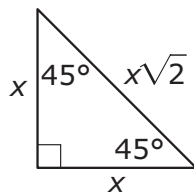
- pi . . . . .  $\pi \approx 3.14$
- circumference . . . .  $C = 2\pi r$  OR  $C = \pi d$
- area . . . . .  $A = \pi r^2$

**RIGHT TRIANGLES**



- Pythagorean Theorem  
 $a^2 + b^2 = c^2$
- Trigonometric Ratios  
 $\sin \theta = \frac{a}{c}$   
 $\cos \theta = \frac{b}{c}$   
 $\tan \theta = \frac{a}{b}$

**SPECIAL RIGHT TRIANGLES**



**November 2021 Next-Generation Mathematics Retest  
Computer-Based Operational Items**

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
1	<i>Algebra and Functions</i>	F-BF.A.1	SR	Create a linear function that models a real-world situation.
2	<i>Algebra and Functions</i>	A-REI.A.1	SR	Explain each step in the solution of an equation.
3	<i>Geometry</i>	G-CO.A.3	SR	Identify a sequence of transformations that carries a figure onto itself.
4	<i>Statistics and Probability</i>	S-ID.C.7	SR	Interpret the rate of change in a linear equation that models data in a real-world situation.
5	<i>Algebra and Functions</i>	A-REI.D.10	SR	Identify the x-coordinate of a point that lies on the graph of a linear equation.
6	<i>Geometry</i>	G-CO.A.2	CR	Describe the effects of transformations on the coordinates of the vertices of a triangle graphed on a coordinate plane.
7	<i>Number and Quantity</i>	N-RN.A.2	SR	Given an exponential expression, use properties of exponents to identify an equivalent expression.
8	<i>Algebra and Functions</i>	F-LE.A.2	SR	Construct an exponential function from values shown in a table.
9	<i>Geometry</i>	G-CO.D.12	SR	Analyze the construction of a perpendicular bisector.
10	<i>Statistics and Probability</i>	S-CP.A.5	SR	Determine whether two real-world events demonstrate independence and compute the probability of them both occurring.
11	<i>Algebra and Functions</i>	A-CED.A.3	SA	Identify viable solutions of a linear inequality and graph the solution set of a different inequality, based on a real-world situation.
12	<i>Geometry</i>	G-C.A.2	SA	Calculate the measure of an inscribed angle based on an arc measure.
13	<i>Number and Quantity</i>	N-RN.B.3	CR	Evaluate expressions involving rational and irrational numbers and determine whether operations involving such numbers result in rational values.
14	<i>Geometry</i>	G-GPE.B.5	SR	Determine whether two lines are parallel or perpendicular and whether other equations represent lines parallel or perpendicular to a given line.
15	<i>Algebra and Functions</i>	F-IF.A.1	SR	Identify the range of a function graphed on a coordinate plane.
16	<i>Geometry</i>	G-SRT.C.7	SR	Relate the sine and cosine of acute angles in a right triangle.
17	<i>Algebra and Functions</i>	A-SSE.A.2	SR	Determine one factor of a difference of two squares expression.
18	<i>Algebra and Functions</i>	F-IF.C.8	SA	Determine the zeros and the minimum value of a function based on an expression that defines it.
19	<i>Statistics and Probability</i>	S-ID.A.2	SR	Compare the center and spread of two sets of normally distributed data.
20	<i>Geometry</i>	G-CO.C.10	SR	Identify the postulate that completes a proof about congruent triangles.
21	<i>Algebra and Functions</i>	A-REI.B.4	SR	Determine the solutions of a quadratic equation in one variable.
22	<i>Algebra and Functions</i>	A-CED.A.2	SR	Create a system of linear equations that models a real-world situation.
23	<i>Geometry</i>	G-GMD.A.1	SR	Compare measurements of two circles given the proportionality of their diameters.
24	<i>Number and Quantity</i>	N-Q.A.1	SR	Use estimation strategies and a variety of units to solve a real-world problem.



CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
25	<i>Geometry</i>	G-CO.C.11	SR	Use theorems about parallelograms to solve for missing angle measures.
26	<i>Algebra and Functions</i>	F-LE.A.1	SR	Identify a situation that can be represented by an exponential function.
27	<i>Statistics and Probability</i>	S-CP.A.4	CR	Complete a two-way frequency table and provide analysis of the table by computing probabilities.
28	<i>Geometry</i>	G-SRT.A.1	SA	Graph the image of a rectangle over a dilation on a coordinate plane.
29	<i>Algebra and Functions</i>	F-IF.B.4	SR	Interpret the vertex and the intercepts of the graph of a quadratic function based on a real-world context.
30	<i>Geometry</i>	G-SRT.B.5	SR	Use proportions to relate the side lengths of similar triangles.
31	<i>Number and Quantity</i>	N-Q.A.1	SR	Compare rates given in a variety of units.
32	<i>Geometry</i>	G-CO.B.6	SA	Locate a figure on a coordinate plane after a translation and determine whether performing other transformations on the figure will result in congruent figures.
33	<i>Algebra and Functions</i>	F-IF.B.6	SR	Calculate the average rate of change of an exponential function from a graph over a specified interval.
34	<i>Algebra and Functions</i>	F-LE.B.5	CR	Interpret the parameters in a linear function that describes a real-world situation and solve problems based on those parameters.
35	<i>Algebra and Functions</i>	A-REI.B.3	SA	Solve an absolute value equation and graph the solution set of an absolute value inequality on a number line.
36	<i>Geometry</i>	G-CO.A.1	SR	Identify lines that are perpendicular based on a description of the lines.
37	<i>Geometry</i>	G-CO.B.8	SR	Given two triangles, identify criteria that prove them congruent.
38	<i>Statistics and Probability</i>	S-ID.B.5	SR	Calculate a marginal frequency from data shown in a two-way frequency table.
39	<i>Number and Quantity</i>	N-Q.A.3	SR	Describe the effects of rounding on measurements and solve a problem based on a real-world situation.
40	<i>Geometry</i>	G-SRT.C.8	SR	Calculate the area of a right triangle given the lengths of two of its sides.
41	<i>Statistics and Probability</i>	S-CP.A.1	SR	Identify the intersection of two subsets based on the description of an event.
42	<i>Geometry</i>	G-SRT.A.2	SR	Determine possible side lengths of two similar triangles.

\* Mathematics item types are selected-response (SR), short-answer (SA), and constructed-response (CR).

**November 2021 Next-Generation Mathematics Retest**  
**Paper-Based Operational Items**

<b>PBT Item No.</b>	<b>Reporting Category</b>	<b>Standard</b>	<b>Item Type*</b>	<b>Item Description</b>
1	<i>Algebra and Functions</i>	F-BF.A.1	SR	Create a linear function that models a real-world situation.
2	<i>Algebra and Functions</i>	A-REI.A.1	SR	Explain each step in the solution of an equation.
3	<i>Geometry</i>	G-CO.A.3	SR	Identify a sequence of transformations that carries a figure onto itself.
4	<i>Statistics and Probability</i>	S-ID.C.7	SR	Interpret the rate of change in a linear equation that models data in a real-world situation.
5	<i>Algebra and Functions</i>	A-REI.D.10	SR	Identify the x-coordinate of a point that lies on the graph of a linear equation.
6	<i>Geometry</i>	G-CO.A.2	CR	Describe the effects of transformations on the coordinates of the vertices of a triangle graphed on a coordinate plane.
7	<i>Number and Quantity</i>	N-RN.A.2	SR	Given an exponential expression, use properties of exponents to identify an equivalent expression.
8	<i>Algebra and Functions</i>	F-LE.A.2	SR	Construct an exponential function from values shown in a table.
9	<i>Geometry</i>	G-CO.D.12	SR	Analyze the construction of a perpendicular bisector.
10	<i>Statistics and Probability</i>	S-CP.A.5	SR	Determine whether two real-world events demonstrate independence and compute the probability of them both occurring.
11	<i>Algebra and Functions</i>	A-CED.A.3	SR	Identify viable solutions of a linear inequality and identify the graph of the solution set of a different inequality, based on a real-world situation.
12	<i>Geometry</i>	G-C.A.2	SA	Calculate the measure of an inscribed angle based on an arc measure.
13	<i>Number and Quantity</i>	N-RN.B.3	CR	Evaluate expressions involving rational and irrational numbers and determine whether operations involving such numbers result in rational values.
14	<i>Geometry</i>	G-GPE.B.5	SR	Determine whether two lines are parallel or perpendicular and whether other equations represent lines parallel or perpendicular to a given line.
15	<i>Algebra and Functions</i>	F-IF.A.1	SR	Identify the range of a function graphed on a coordinate plane.
16	<i>Geometry</i>	G-SRT.C.7	SR	Relate the sine and cosine of acute angles in a right triangle.
17	<i>Algebra and Functions</i>	A-SSE.A.2	SR	Determine one factor of a difference of two squares expression.
18	<i>Algebra and Functions</i>	F-IF.C.8	SA	Determine the zeros and the minimum value of a function based on an expression that defines it.
19	<i>Statistics and Probability</i>	S-ID.A.2	SR	Compare the center and spread of two sets of normally distributed data.
20	<i>Geometry</i>	G-CO.C.10	SR	Identify the postulate that completes a proof about congruent triangles.
21	<i>Algebra and Functions</i>	A-REI.B.4	SR	Determine the solutions of a quadratic equation in one variable.
22	<i>Algebra and Functions</i>	A-CED.A.2	SR	Create a system of linear equations that models a real-world situation.
23	<i>Geometry</i>	G-GMD.A.1	SR	Compare measurements of two circles given the proportionality of their diameters.
24	<i>Number and Quantity</i>	N-Q.A.1	SR	Use estimation strategies and a variety of units to solve a real-world problem.

<b>PBT Item No.</b>	<b>Reporting Category</b>	<b>Standard</b>	<b>Item Type*</b>	<b>Item Description</b>
25	<i>Geometry</i>	G-CO.C.11	SR	Use theorems about parallelograms to solve for missing angle measures.
26	<i>Algebra and Functions</i>	F-LE.A.1	SR	Identify a situation that can be represented by an exponential function.
27	<i>Statistics and Probability</i>	S-CP.A.4	CR	Complete a two-way frequency table and provide analysis of the table by computing probabilities.
28	<i>Geometry</i>	G-SRT.A.1	SR	Identify the graph of the image of a rectangle over a dilation on a coordinate plane.
29	<i>Algebra and Functions</i>	F-IF.B.4	SR	Interpret the vertex and the intercepts of the graph of a quadratic function based on a real-world context.
30	<i>Geometry</i>	G-SRT.B.5	SR	Use proportions to relate the side lengths of similar triangles.
31	<i>Number and Quantity</i>	N-Q.A.1	SR	Compare rates given in a variety of units.
32	<i>Geometry</i>	G-CO.B.6	SR	Locate a figure on a coordinate plane after a translation and determine whether performing other transformations on the figure will result in congruent figures.
33	<i>Algebra and Functions</i>	F-IF.B.6	SR	Calculate the average rate of change of an exponential function from a graph over a specified interval.
34	<i>Algebra and Functions</i>	F-LE.B.5	CR	Interpret the parameters in a linear function that describes a real-world situation and solve problems based on those parameters.
35	<i>Algebra and Functions</i>	A-REI.B.3	SR	Solve an absolute value equation and identify the graph of the solution set of an absolute value inequality on a number line.
36	<i>Geometry</i>	G-CO.A.1	SR	Identify lines that are perpendicular based on a description of the lines.
37	<i>Geometry</i>	G-CO.B.8	SR	Given two triangles, identify criteria that prove them congruent.
38	<i>Statistics and Probability</i>	S-ID.B.5	SR	Calculate a marginal frequency from data shown in a two-way frequency table.
39	<i>Number and Quantity</i>	N-Q.A.3	SR	Describe the effects of rounding on measurements and solve a problem based on a real-world situation.
40	<i>Geometry</i>	G-SRT.C.8	SR	Calculate the area of a right triangle given the lengths of two of its sides.
41	<i>Statistics and Probability</i>	S-CP.A.1	SR	Identify the intersection of two subsets based on the description of an event.
42	<i>Geometry</i>	G-SRT.A.2	SR	Determine possible side lengths of two similar triangles.

\* Mathematics item types are selected-response (SR), short-answer (SA), and constructed-response (CR).