MASSACHUSETTS DEPARTMENT OF
ELEMENTARY AND SECONDARY
EDUCATION

Release of MCAS Test Information from the March 2022 ELA and Math Retests

March 2022
Massachusetts Department of
Elementary and Secondary Education

MASSACHUSETTS DEPARTMENT OF
ELEMENTARY AND SECONDARY
EDUCATION

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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 March 2022 MCAS 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 March 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 March 2022 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.

II. English Language Arts Retest

English Language Arts Retest

The March 2022 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.

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.

March 2022 English Language Arts Retest
Computer-Based Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
1	*Reading*	RL.9-10.3	SR	Make an inference about the relationship among characters in an excerpt.
2	*Language*	L.9-10.5	SR	Determine the impact of language on meaning in an excerpt.
3	*Reading*	RL.9-10.1	SR	Make an inference about a character based on specific lines in an excerpt from a novel in verse.
4	*Reading*	RL.9-10.4	SR	Analyze the effect of figurative language in two excerpts on similar topics.
5	*Reading*	RL.9-10.3	SR	Compare the emotions of characters in two excerpts on similar topics, based on specific details.
6	*Language*	L.9-10.5	SR	Compare the effects of figurative language in two excerpts on similar topics.
7	*Reading*	RL.9-10.3	SR	Compare the feelings of main characters in two excerpts on similar topics; select evidence from both excerpts for support.
8	*Reading*	RL.9-10.4	SR	Analyze the effect of details on mood in two excerpts on similar topics.
9	*Language, Writing*	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.2, W.9-10.4	ES	Write an essay that compares the feelings of characters in two excerpts on similar topics; use details from the excerpts to develop the essay.
10	*Reading*	RL.9-10.2	SR	Determine the theme supported by specific details in a poem.
11	*Reading*	RL.9-10.4	SR	Contrast the presentation of a similar idea by two different authors.
12	*Reading*	RL.9-10.4	SR	Compare the author's portrayal of a subject in a poem and an excerpt on similar topics.
13	*Reading*	RL.9-10.4	SR	Match specific examples of figurative language from a poem and an excerpt with their effects.
14	*Reading*	RI.9-10.6	SR	Determine the main purpose of an excerpt.
15	*Language*	L.9-10.2	SR	Determine the purpose of parenthetical information in an article.
16	*Reading*	RI.9-10.5	SR	Determine the purpose of specific paragraphs in an article.
17	*Reading*	RI.9-10.8	SR	Select evidence to support a specific claim made in an article.
18	*Language*	L.9-10.5	SR	Select evidence from an excerpt to support an idea presented in an article on a similar topic.
19	*Reading*	RI.9-10.1	SR	Select evidence from an excerpt to support an idea presented in an article on a similar topic.
20	*Reading*	RI.9-10.8	SR	Identify a claim in an excerpt and determine which evidence from another excerpt or article supports the claim.
21	*Reading*	RI.9-10.2	SR	Compare and contrast the main emphasis in an excerpt and an article on similar topics.
22	*Language, Writing*	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.2, W.9-10.4	ES	Write an essay that analyzes a key idea shared by two excerpts and an article on similar topics; use information from all three texts to develop the essay.
23	*Reading*	RI.9-10.3	SR	Determine the claim introduced in a specific paragraph of an article.

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
24	*Reading*	RI.9-10.4	SR	Determine how the use of specific phrases affects meaning in an article.
25	*Language*	L.9-10.4	SR	Determine the meaning of an unfamiliar word using context.
26	*Reading*	RI.9-10.2	SR	Determine the main idea of a paragraph in an article.
27	*Reading*	RI.9-10.6	SR	Determine the effect of a specific rhetorical device in an article.
28	*Reading*	RI.9-10.5	SR	Identify a paragraph in one article that supports a claim made in another article.
29	*Reading*	RI.9-10.2	SR	Identify a main idea expressed in two articles and cite evidence from both articles that support the main idea.
30	*Reading*	RI.9-10.8	SR	Identify details in two articles that support key ideas from the articles.

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

March 2022 English Language Arts Retest
Paper-Based Operational Items

PBT Item No.	Reporting Category	Standard	Item Type*	Item Description
1	*Reading*	RL.9-10.3	SR	Make an inference about the relationship among characters in an excerpt.
2	*Language*	L.9-10.5	SR	Determine the impact of language on meaning in an excerpt.
3	*Reading*	RL.9-10.1	SR	Make an inference about a character based on specific lines in an excerpt from a novel in verse.
4	*Reading*	RL.9-10.4	SR	Analyze the effect of figurative language in two excerpts on similar topics.
5	*Reading*	RL.9-10.3	SR	Compare the emotions of characters in two excerpts on similar topics, based on specific details.
6	*Language*	L.9-10.5	SR	Compare the effects of figurative language in two excerpts on similar topics.
7	*Reading*	RL.9-10.3	SR	Compare the feelings of main characters in two excerpts on similar topics; select evidence from both excerpts for support.
8	*Reading*	RL.9-10.4	SR	Analyze the effect of details on mood in two excerpts on similar topics.
9	*Language, Writing*	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.2, W.9-10.4	ES	Write an essay that compares the feelings of characters in two excerpts on similar topics; use details from the excerpts to develop the essay.
10	*Reading*	RL.9-10.2	SR	Determine the theme supported by specific details in a poem.
11	*Reading*	RL.9-10.4	SR	Contrast the presentation of a similar idea by two different authors.
12	*Reading*	RL.9-10.4	SR	Compare the author's portrayal of a subject in a poem and an excerpt on similar topics.
13	*Reading*	RL.9-10.4	SR	Match specific examples of figurative language from a poem and an excerpt with their effects.
14	*Reading*	RI.9-10.6	SR	Determine the main purpose of an excerpt.
15	*Language*	L.9-10.2	SR	Determine the purpose of parenthetical information in an article.
16	*Reading*	RI.9-10.5	SR	Determine the purpose of specific paragraphs in an article.
17	*Reading*	RI.9-10.8	SR	Select evidence to support a specific claim made in an article.
18	*Language*	L.9-10.5	SR	Select evidence from an excerpt to support an idea presented in an article on a similar topic.
19	*Reading*	RI.9-10.1	SR	Select evidence from an excerpt to support an idea presented in an article on a similar topic.
20	*Reading*	RI.9-10.8	SR	Identify a claim in an excerpt and determine which evidence from another excerpt or article supports the claim.
21	*Reading*	RI.9-10.2	SR	Compare and contrast the main emphasis in an excerpt and an article on similar topics.
22	*Language, Writing*	L.9-10.1, L.9-10.2, L.9-10.3, W.9-10.2, W.9-10.4	ES	Write an essay that analyzes a key idea shared by two excerpts and an article on similar topics; use information from all three texts to develop the essay.
23	*Reading*	RI.9-10.3	SR	Determine the claim introduced in a specific paragraph of an article.

PBT Item No.	Reporting Category	Standard	Item Type*	Item Description
24	*Reading*	RI.9-10.4	SR	Determine how the use of specific phrases affects meaning in an article.
25	*Language*	L.9-10.4	SR	Determine the meaning of an unfamiliar word using context.
26	*Reading*	RI.9-10.2	SR	Determine the main idea of a paragraph in an article.
27	*Reading*	RI.9-10.6	SR	Determine the effect of a specific rhetorical device in an article.
28	*Reading*	RI.9-10.5	SR	Identify a paragraph in one article that supports a claim made in another article.
29	*Reading*	RI.9-10.2	SR	Identify a main idea expressed in two articles and cite evidence from both articles that support the main idea.
30	*Reading*	RI.9-10.8	SR	Identify details in two articles that support key ideas from the articles.

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

III. Mathematics Retest

Mathematics Retest

The March 2022 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.

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.

MASSACHUSETTS DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION

Massachusetts Comprehensive Assessment System
Grade 10 Mathematics Reference Sheet

CONVERSIONS

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon ≈ 3.785 liters
1 liter ≈ 0.264 gallon
1 liter = 1000 cubic centimeters

1 inch = 2.54 centimeters
1 meter ≈ 39.37 inches
1 mile = 5280 feet
1 mile = 1760 yards
1 mile ≈ 1.609 kilometers
1 kilometer ≈ 0.62 mile

1 pound = 16 ounces
1 pound ≈ 0.454 kilogram
1 kilogram ≈ 2.2 pounds
1 ton = 2000 pounds

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 . . . . $SA = s^2 + 2s\ell$
(ℓ = slant height)
right rectangular prism . . $SA = 2(lw) + 2(hw) + 2(lh)$

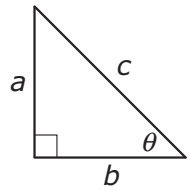
VOLUME (V) FORMULAS

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

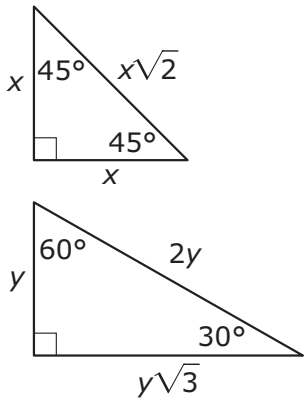
pi . . . . . $\pi \approx 3.14$
circumference . . . . $C = 2\pi r$ OR $C = \pi d$
area . . . . . $A = \pi r^2$

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



March 2022 Mathematics Retest
Computer-Based Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
1	*Algebra and Functions*	A-APR.A.1	SR	Calculate an unknown side length of a triangle given the perimeter and the other side lengths represented by variable expressions.
2	*Algebra and Functions*	F-IF.A.3	SA	Extend an arithmetic sequence given its first four terms.
3	*Statistics and Probability*	S-ID.A.2	SR	Compare the means and the spreads of multiple data sets.
4	*Algebra and Functions*	A-REI.C.6	SR	Determine the x-value of the solution of a system of linear equations.
5	*Geometry*	G-CO.A.1	SR	Identify a description of parallel lines based on the definition.
6	*Number and Quantity*	N-RN.A.2	CR	Evaluate a variety of expressions that represent the areas of two-dimensional figures and the volumes of three-dimensional figures.
7	*Algebra and Functions*	A-REI.D.12	SR	Identify the solution set of a system of linear inequalities in two variables, graphed on a coordinate plane.
8	*Algebra and Functions*	F-LE.A.2	SR	Construct an exponential function based on values shown in a table.
9	*Algebra and Functions*	A-REI.B.3	SR	Solve a one-variable linear equation.
10	*Statistics and Probability*	S-ID.B.6	SA	Use a line of best fit to make a prediction based on data displayed in a scatter plot.
11	*Algebra and Functions*	F-BF.A.2	SA	Write a explicit function for an arithmetic sequence and identify the recursive formula for the sequence.
12	*Geometry*	G-SRT.C.6	SR	Calculate the area of a square given the length of its diagonal.
13	*Statistics and Probability*	S-ID.A.2	CR	Calculate measures of center for a set of data and describe how additional data affect these measures.
14	*Algebra and Functions*	A-REI.C.7	SA	Determine the number of solutions of a system consisting of the equations of a line and of a circle, then solve a similar system.
15	*Number and Quantity*	N-RN.A.2	SR	Identify equivalent expressions involving rational exponents and radicals.
16	*Algebra and Functions*	F-BF.A.1	SR	Determine the product of equations that represent two functions.
17	*Number and Quantity*	N-Q.A.2	SR	Use units to estimate the solution of a real-world problem.
18	*Geometry*	G-CO.A.5	SA	Graph a figure on a coordinate plane after a reflection and identify a general rule for a given translation.
19	*Algebra and Functions*	A-APR.A.1	SR	Create an equivalent one-variable expression by combining like terms.
20	*Geometry*	G-SRT.C.8	SA	Given irrational lengths of the two legs of a right triangle, calculate the length of the hypotenuse.
21	*Algebra and Functions*	F-IF.C.8	SR	Determine the coordinates of the minimum point of the graph of a quadratic function.
22	*Geometry*	G-SRT.B.5	SR	Given two similar parallelograms and the ratio of their dimensions, find the area of the larger figure.
23	*Number and Quantity*	N-Q.A.3	SR	Determine the effects of rounding on the accuracy of a measurement based on a real-world situation.
24	*Geometry*	G-GPE.B.6	SA	Identify the point on a line segment that partitions the segment into a given ratio.
25	*Statistics and Probability*	S-CP.A.1	SR	Identify the intersection of two given sets of numbers.
26	*Geometry*	G-CO.B.7	SR	Determine corresponding angles and sides of two congruent triangles.

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
27	*Algebra and Functions*	F-IF.B.5	CR	Analyze a linear function by determining its domain and range and solve a real-world problem modeled by the function.
28	*Geometry*	G-C.A.2	SR	Find the measure of a central angle in a circle given a major arc measure.
29	*Algebra and Functions*	A-SSE.A.1	SR	Create a mathematical expression in one variable that represents a real-world situation.
30	*Geometry*	G-CO.C.9	SR	Use theorems about lines and angles to prove a relationship in a geometric diagram.
31	*Geometry*	G-SRT.B.4	SR	Given two triangles that have sides parallel to each other, determine an unknown side length.
32	*Statistics and Probability*	S-ID.C.8	SR	Describe the association of data and a linear model that represents it based on the correlation coefficient of the data.
33	*Geometry*	G-GPE.B.7	SR	Given a segment graphed on a coordinate plane, locate a point that creates a triangle which meets given criteria.
34	*Geometry*	G-GMD.A.3	CR	Calculate and compare the volumes of two spheres and use volume to calculate the diameter of a different sphere.
35	*Number and Quantity*	N-Q.A.1	SA	Use dimensional analysis to calculate and compare rates in a real-world problem.
36	*Geometry*	G-CO.C.10	SR	Use properties of isosceles triangles to find an unknown angle measure.
37	*Algebra and Functions*	F-LE.A.1	SR	Identify situations that can be represented by a linear function.
38	*Geometry*	G-C.A.1	SA	Determine the scale factor of a dilation of a circle on a coordinate plane that proves two circles are similar.
39	*Geometry*	G-GMD.A.3	SA	Calculate the volume of a cylinder and use the volume formula to solve a real-world problem.
40	*Algebra and Functions*	A-REI.D.12	SR	Identify the solution set of a two-variable inequality that represents a real-world situation.
41	*Geometry*	G-C.A.3	SR	Use properties of quadrilaterals inscribed in a circle to calculate an unknown angle measure.
42	*Algebra and Functions*	A-CED.A.1	SR	Create and solve a one-variable equation based on a real-world situation.

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

March 2022 Mathematics Retest
Paper-Based Operational Items

PBT Item No.	Reporting Category	Standard	Item Type*	Item Description
1	*Algebra and Functions*	A-APR.A.1	SR	Calculate an unknown side length of a triangle given the perimeter and the other side lengths represented by variable expressions.
2	*Algebra and Functions*	F-IF.A.3	SA	Extend an arithmetic sequence given its first four terms.
3	*Statistics and Probability*	S-ID.A.2	SR	Compare the means and the spreads of multiple data sets.
4	*Algebra and Functions*	A-REI.C.6	SR	Determine the x-value of the solution of a system of linear equations.
5	*Geometry*	G-CO.A.1	SR	Identify a description of parallel lines based on the definition.
6	*Number and Quantity*	N-RN.A.2	CR	Evaluate a variety of expressions that represent the areas of two-dimensional figures and the volumes of three-dimensional figures.
7	*Algebra and Functions*	A-REI.D.12	SR	Identify the solution set of a system of linear inequalities in two variables, graphed on a coordinate plane.
8	*Algebra and Functions*	F-LE.A.2	SR	Create an exponential function based on values shown in a table.
9	*Algebra and Functions*	A-REI.B.3	SR	Solve a one-variable linear equation.
10	*Statistics and Probability*	S-ID.B.6	SA	Use a line of best fit to make a prediction based on data displayed in a scatter plot.
11	*Algebra and Functions*	F-BF.A.2	SR	Identify a function that describes an arithmetic sequence explicitly and a formula that describes it recursively.
12	*Geometry*	G-SRT.C.6	SR	Calculate the area of a square given the length of its diagonal.
13	*Statistics and Probability*	S-ID.A.2	CR	Calculate measures of center for a set of data and describe how additional data affect these measures.
14	*Algebra and Functions*	A-REI.C.7	SR	Determine the number of solutions of a system consisting of the equations of a line and a circle, then identify the solution of a similar system.
15	*Number and Quantity*	N-RN.A.2	SR	Identify an equation that correctly equates a rational and an exponential expression.
16	*Algebra and Functions*	F-BF.A.1	SR	Determine the product of equations that represent two functions.
17	*Number and Quantity*	N-Q.A.2	SR	Use units to estimate the solution of a real-world problem.
18	*Geometry*	G-CO.A.5	SR	Identify the graph of a figure on a coordinate plane after a reflection and identify a general rule for a given translation.
19	*Algebra and Functions*	A-APR.A.1	SR	Create an equivalent one-variable expression by combining like terms.
20	*Geometry*	G-SRT.C.8	SR	Given irrational lengths of the two legs of a right triangle, identify the length of the hypotenuse.
21	*Algebra and Functions*	F-IF.C.8	SR	Determine the coordinates of the minimum point of the graph of a quadratic function.
22	*Geometry*	G-SRT.B.5	SR	Given two similar parallelograms and the ratio of their dimensions, find the area of the larger figure.
23	*Number and Quantity*	N-Q.A.3	SR	Determine the effects of rounding on the accuracy of a measurement based on a real-world situation.
24	*Geometry*	G-GPE.B.6	SR	Identify the point on a line segment that partitions the segment into a given ratio.
25	*Statistics and Probability*	S-CP.A.1	SR	Identify the intersection of two given sets of numbers.
26	*Geometry*	G-CO.B.7	SR	Determine corresponding angles and sides of two congruent triangles.

PBT Item No.	Reporting Category	Standard	Item Type*	Item Description
27	*Algebra and Functions*	F-IF.B.5	CR	Analyze a linear function by determining its domain and range and solve a real-world problem modeled by the function.
28	*Geometry*	G-C.A.2	SR	Find the measure of a central angle in a circle given a major arc measure.
29	*Algebra and Functions*	A-SSE.A.1	SR	Create a mathematical expression in one variable that represents a real-world situation.
30	*Geometry*	G-CO.C.9	SR	Use theorems about lines and angles to prove a relationship in a geometric diagram.
31	*Geometry*	G-SRT.B.4	SR	Given two triangles that have sides parallel to each other, determine an unknown side length.
32	*Statistics and Probability*	S-ID.C.8	SR	Determine facts about the association of data and a linear model that represents it based on the correlation coefficient of the data.
33	*Geometry*	G-GPE.B.7	SR	Given a segment graphed on a coordinate plane, locate a point that creates a triangle which meets given criteria.
34	*Geometry*	G-GMD.A.3	CR	Calculate and compare the volumes of two spheres and use volume to calculate the diameter of a different sphere.
35	*Number and Quantity*	N-Q.A.1	SA	Use dimensional analysis to calculate and compare rates in a real-world problem.
36	*Geometry*	G-CO.C.10	SR	Use properties of isosceles triangles to find an unknown angle measure.
37	*Algebra and Functions*	F-LE.A.1	SR	Identify situations that can be represented by a linear function.
38	*Geometry*	G-C.A.1	SA	Determine the scale factor of a dilation of a circle on a coordinate plane that proves two circles are similar.
39	*Geometry*	G-GMD.A.3	SA	Calculate the volume of a cylinder and use the volume formula to solve a real-world problem.
40	*Algebra and Functions*	A-REI.D.12	SR	Identify the solution set of a two-variable inequality that represents a real-world situation.
41	*Geometry*	G-C.A.3	SR	Use properties of quadrilaterals inscribed in a circle to calculate an unknown angle measure.
42	*Algebra and Functions*	A-CED.A.1	SR	Create and solve a one-variable equation based on a real-world situation.

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