

Computer-Based Released Items Grade 8 MCAS Mathematics Spring 2026

The spring 2026 grade 8 Mathematics test was administered in two 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 eligible students who were unable to use a computer. More information can be found on the MCAS Test Administration Resources page at www.doe.mass.edu/mcas/admin.html.

The Department of Elementary and Secondary Education is releasing items from both versions of the test to provide information about the knowledge and skills that students are expected to demonstrate.

- Released items from the computer-based test are available online at mcas.onlinehelp.cognia.org/released-items.
- Released items from the paper-based test are available in PDF format on the Department's website at www.doe.mass.edu/mcas/release.html.

This document provides information about each released and unreleased operational item from the computer-based test, including the following: reporting category, standard covered, item type, item description, and correct answer (for released selected-response and short-answer items only). Sample responses and scoring guidelines for constructed-response items will be posted at www.doe.mass.edu/mcas/student/.

A Note about Testing Mode

Most of the operational items on the grade 8 Mathematics test were the same, regardless of whether a student took the computer-based version or the paper-based version. 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 Mathematics content and assessed the same standard as the technology-enhanced item.

Grade 8 Mathematics
Spring 2026 Computer-Based Released Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description	Correct Answer **
1	<i>Number System & Expressions/Equations</i>	8.EE.A.2	SR	Evaluate the square root of a small perfect square.	B
2	<i>Number System & Expressions/Equations</i>	8.EE.B.6	SR	Determine the y-intercept and slope of an equation given in the form of $y=mx+b$.	C
3	<i>Functions</i>	8.F.A.3	SR	Determine which equations represent functions that are not linear.	C,D,E
4	<i>Number System & Expressions/Equations</i>	8.EE.A.1	CR	Apply properties of integer exponents to generate equivalent expressions.	
5	<i>Number System & Expressions/Equations</i>	8.EE.A.4	SR	Find the quotient of two numbers written in scientific notation.	A
6	<i>Functions</i>	8.F.A.3	SR	Determine whether given equations are linear or nonlinear functions.	A
7	<i>Number System & Expressions/Equations</i>	8.NS.A.1	SR	Classify radical expressions as rational or irrational numbers.	see page 6
8	<i>Geometry</i>	8.G.B.8	SR	Determine which expression can be used to find the distance between two points on a coordinate plane using the Pythagorean Theorem.	C
9	<i>Number System & Expressions/Equations</i>	8.NS.A.2	SR	Determine between which pair of integers a square root of a given number lies.	A
10	<i>Number System & Expressions/Equations</i>	8.EE.B.5	SA	Graph a proportional relationship based on a given real-world context.	see page 6
11	<i>Geometry</i>	8.G.A.2	SR	Determine which series of transformations will result in a figure that is congruent to a given figure.	C
12	<i>Statistics and Probability</i>	8.SP.A.4	CR	Use relative frequencies from a two-way frequency table to solve real-world problems.	
13	<i>Functions</i>	8.F.B.5	SR	Given a graph of a function, determine which statements about the function are true.	B,E
14	<i>Functions</i>	8.F.B.4	SR	Determine the rate of change of a function from data represented in a table.	A
15	<i>Geometry</i>	8.G.B.7	SR	Determine the length of a leg of a right triangle in a real-world scenario by using the Pythagorean theorem.	C
16	<i>Functions</i>	8.F.A.1	SR	Determine whether sets of ordered pairs represent functions.	see page 7

17	<i>Geometry</i>	8.G.A.5	SA	Determine the measure of an exterior angle of a triangle.	110
18	<i>Number System & Expressions/Equations</i>	8.EE.C.8	SR	Determine the x-value in the solution of a linear system of equations.	B
19	<i>Geometry</i>	8.G.A.4	SR	Determine the sequence of transformations that shows two figures are congruent and determine whether a dilation still preserves similarity.	Part A: see page 7 Part B: A
20	<i>Geometry</i>	8.G.C.9	SA	Determine the volume of a cylinder given the diameter of the base and the height.	763.02

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

**Answers are provided here for selected-response and short-answer items only. Pages 6 and 7 of this document provide correct answers for technology-enhanced (TE) items. Sample responses and scoring guidelines for constructed-response items will be posted at www.doe.mass.edu/mcas/student/default.html.

Grade 8 Mathematics
Spring 2026 Computer-Based Unreleased Operational Items

CBT Item No.	Reporting Category	Standard	Item Type	Item Description
21	<i>Number System & Expressions/Equations</i>	8.EE.A.4	SR	Compare the values of numbers written in scientific notation.
22	<i>Number System & Expressions/Equations</i>	8.EE.C.8	SR	Determine the coordinates of the solution of a system of equations.
23	<i>Number System & Expressions/Equations</i>	8.EE.A.2	SR	Use a cube root symbol to represent the value of x in an equation in the form $x^3 = p$.
24	<i>Number System & Expressions/Equations</i>	8.EE.B.6	SR	Determine the equation of a line.
25	<i>Geometry</i>	8.G.A.1	CR	Identify which corresponding parts are congruent between a triangle and its image after a given transformation and determine what transformations of the original triangle would result in the same image.
26	<i>Number System & Expressions/Equations</i>	8.EE.B.5	SR	Determine the unit rate from the graph of a line.
27	<i>Number System & Expressions/Equations</i>	8.EE.A.3	SR	Convert a number in standard notation to scientific notation, and determine how many times as much one number is than the other when both numbers are written in scientific notation.
28	<i>Number System & Expressions/Equations</i>	8.EE.C.7	SR	Determine which equations have an infinite number of solutions.
29	<i>Number System & Expressions/Equations</i>	8.NS.A.2	SA	Identify a point on a number line that corresponds to the approximate location of an irrational number.
30	<i>Number System & Expressions/Equations</i>	8.NS.A.1	SR	Determine the decimal equivalent of a rational number expressed as a fraction.
31	<i>Geometry</i>	8.G.A.3	SR	Determine the coordinates of the image of a vertex of a quadrilateral after it has been translated.
32	<i>Statistics and Probability</i>	8.SP.A.1	SR	Identify a scatter plot that displays a negative linear relationship.
33	<i>Geometry</i>	8.G.B.6	SR	Given a diagram of a triangle created by the sides of three squares, determine how it relates to the Pythagorean Theorem.
34	<i>Number System & Expressions/Equations</i>	8.EE.C.7	SR	Use the distributive property to identify solutions to given linear equations.
35	<i>Functions</i>	8.F.A.2	CR	Determine the initial values, rates, equations and solutions of linear relationships represented in different ways.
36	<i>Geometry</i>	8.G.B.8	SR	Determine the length of a line segment on a coordinate plane using the Pythagorean Theorem.

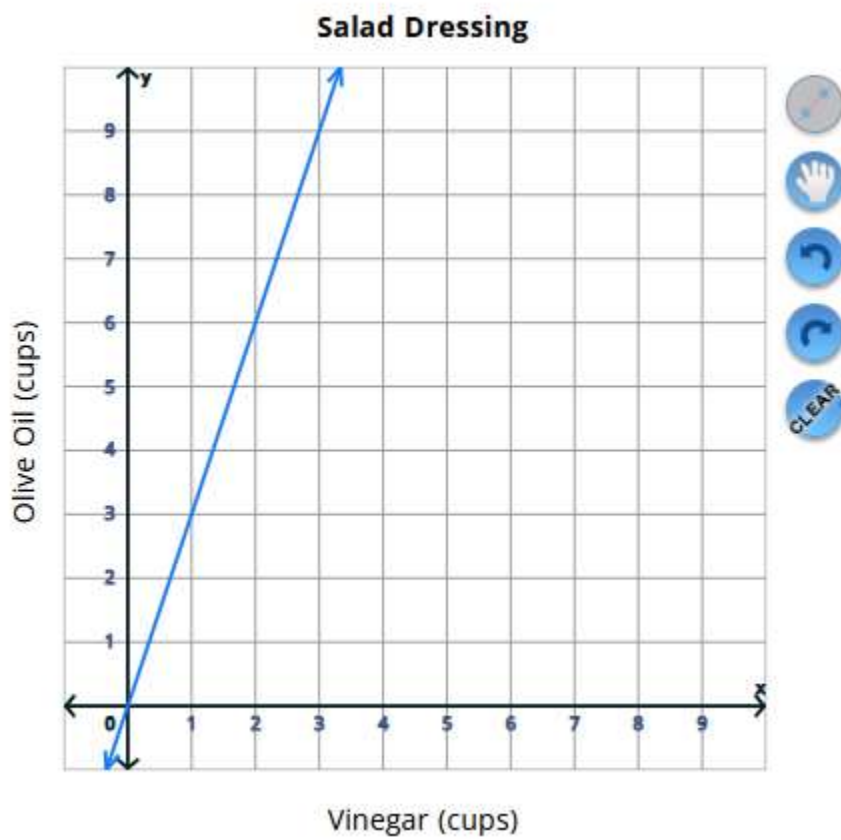
37	<i>Functions</i>	8.F.B.4	SR	Determine the rate of change and the initial value of a function from data represented in a graph.
38	<i>Geometry</i>	8.G.B.7	SA	Determine an unknown side length of a right triangle using the Pythagorean Theorem.
39	<i>Geometry</i>	8.G.A.3	SA	Graph a quadrilateral on a coordinate plane after a sequence of transformations.
40	<i>Functions</i>	8.F.B.5	SR	Analyze the qualitative features of a graph that represents a real-world situation.

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

Correct Answer for CBT Item #7: Technology-Enhanced Item

Number	Rational	Irrational
$\sqrt{2}$	☐	☒
$\sqrt{16}$	☒	☐
$\sqrt{20}$	☐	☒

Correct Answer for CBT Item #10: Technology-Enhanced Item



Correct Answer for CBT Item #16: Technology-Enhanced Item

Set of Ordered Pairs	Function	Not a Function
$(5, 6), (5, 7), (5, 8), (5, 9)$	☐	☒
$(5, 6), (6, 6), (7, 6), (8, 6)$	☒	☐
$(5, 6), (6, 5), (7, 8), (8, 7)$	☒	☐

Correct Answer for CBT Item #19: Technology-Enhanced Item**Part B**

Triangle QRS can be translated and then reflected over the to map it onto triangle TUV .