

Computer-Based Released Items Grade 7 MCAS Mathematics Spring 2026

The spring 2026 grade 7 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 7 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 7 Mathematics
Spring 2026 Computer-Based Released Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description	Correct Answer **
1	<i>The Number System</i>	7.NS.A.1	SR	Determine which expression is equivalent to a given subtraction expression with decimals.	C
2	<i>Geometry</i>	7.G.B.4	SA	Determine the distance between the center of a circle and a point drawn on the circle, given its radius.	6
3	<i>Expressions and Equations</i>	7.EE.B.4	CR	Write and solve equations and inequalities in a real-world problem.	
4	<i>The Number System</i>	7.NS.A.2	SR	Determine whether the products of positive and negative rational numbers have positive or negative values.	see page 6
5	<i>Expressions and Equations</i>	7.EE.A.1	SR	Create equivalent expressions by factoring and expanding given expressions.	Part A: B Part B: see page 6
6	<i>Ratios and Proportional Relationships</i>	7.RP.A.1	SR	Determine the unit rates associated with ratios of fractions to solve a real-world problem.	see page 6
7	<i>The Number System</i>	7.NS.A.1	SR	Determine which addition expression is equivalent to a given subtraction expression.	D
8	<i>Statistics and Probability</i>	7.SP.C.8	SA	Determine the probability of a compound event using a tree diagram.	$\frac{1}{3}$
9	<i>The Number System</i>	7.NS.A.2	SR	Evaluate a division expression with positive and negative decimals.	A
10	<i>Expressions and Equations</i>	7.EE.A.2	SR	Identify equivalent algebraic expressions that represent the perimeter of a rectangle in a real-world context.	A,D
11	<i>Geometry</i>	7.G.B.5	SR	Given a diagram of a line intersecting a rectangle, identify vertical angles.	B,E
12	<i>Statistics and Probability</i>	7.SP.C.6	SR	Use a given probability to predict the expected number of events that will occur in a real-world situation.	C
13	<i>Ratios and Proportional Relationships</i>	7.RP.A.2	CR	Determine unit rates associated with ratios of fractions and use them to write an equation and solve real-world problems.	
14	<i>The Number System</i>	7.NS.A.3	SR	Solve a multi-step real-world problem involving integers, fractions, and percents.	A
15	<i>Statistics and Probability</i>	7.SP.A.1	SR	Identify which sampling method would most likely produce a representative sample for a given population.	C

16	<i>Statistics and Probability</i>	7.SP.C.7	SR	Determine the probability of an event using observed frequencies presented in a table.	<i>see page 6</i>
17	<i>Geometry</i>	7.G.A.2	SR	Determine whether each given set of side lengths could be the side lengths of a triangle.	A,C
18	<i>Geometry</i>	7.G.A.3	SR	Determine which two-dimensional shape will result from slicing a three-dimensional figure perpendicular to or parallel to its base.	<i>see page 7</i>
19	<i>Statistics and Probability</i>	7.SP.C.5	SR	Determine and compare probabilities to identify the likelihood of a given event.	B
20	<i>Ratios and Proportional Relationships</i>	7.RP.A.3	SR	Determine the percent increase in a real-world problem.	C

*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 7 Mathematics
Spring 2026 Computer-Based Unreleased Operational Items

CBT Item No.	Reporting Category	Standard	Item Type	Item Description
21	<i>Ratios and Proportional Relationships</i>	7.RP.A.3	SR	Solve a multi-step real-world ratio problem.
22	<i>Statistics and Probability</i>	7.SP.A.2	SR	Given a random sample from a population, identify the probability of an occurrence and make a prediction about the entire population.
23	<i>Expressions and Equations</i>	7.EE.A.1	SR	Determine which expression is equivalent to the difference of two given expressions.
24	<i>The Number System</i>	7.NS.A.2	SA	Solve a real-world problem by multiplying a fraction by a whole number.
25	<i>Expressions and Equations</i>	7.EE.A.1	SR	Expand a given linear expression with a decimal using the Distributive Property to create an equivalent expression.
26	<i>Ratios and Proportional Relationships</i>	7.RP.A.1	SR	Determine the unit rate associated with a given ratio of fractions in a real-world context.
27	<i>The Number System</i>	7.NS.A.1	SR	Evaluate an expression that contains positive and negative decimals.
28	<i>Statistics and Probability</i>	7.SP.C.7	CR	Determine and compare the probabilities of events presented on a spinner and in a table, and explain the differences in predictions made from both models.
29	<i>The Number System</i>	7.NS.A.3	SR	Evaluate an expression that contains positive and negative fractions.
30	<i>The Number System</i>	7.NS.A.1	SA	Evaluate an expression with positive and negative rational numbers and plot the value on a number line.
31	<i>The Number System</i>	7.NS.A.3	SR	Convert a value from one system of measurement to another in a real-world context.
32	<i>Ratios and Proportional Relationships</i>	7.RP.A.2	SR	Given the graph of a real-world proportional relationship, identify the y-coordinate on the graph that corresponds with the given x-coordinate.
33	<i>Statistics and Probability</i>	7.SP.B.4	SR	Given two data sets, compare the mean and the median of both sets of data.
34	<i>Expressions and Equations</i>	7.EE.B.4	SR	Determine which expression represents a given real-world relationship between two variables based on information displayed in a table.
35	<i>Expressions and Equations</i>	7.EE.A.1	SR	Identify expressions that are equivalent to a given algebraic expression by using factoring.
36	<i>Geometry</i>	7.G.B.6	CR	Solve a real-world problem involving the volume and surface area of a rectangular prism and the number of cubes that can be cut from the rectangular prism given the edge length of one cube.

37	<i>Expressions and Equations</i>	7.EE.B.3	SA	Solve a real-world, multi-step problem involving mixed numbers, percentages, and whole numbers.
38	<i>Ratios and Proportional Relationships</i>	7.RP.A.1	SA	Given a real-world problem, identify an expression that can be used to find a unit rate and determine a unit rate based on given ratios of fractions.
39	<i>Expressions and Equations</i>	7.EE.A.2	SR	Rewrite a given expression that represents a real-world situation, and evaluate the new expression for a given value.
40	<i>The Number System</i>	7.NS.A.3	SA	Use operations with decimals to solve a real-world problem.

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

Correct Answer for CBT Item #4: Technology-Enhanced Item

Expression	Positive Value	Negative Value
$-\frac{4}{5}(0.8)$	☐	☒
$(-3)(-7)$	☒	☐
$-4.5(-\frac{3}{8})$	☒	☐
$3(\frac{2}{-5})$	☐	☒

Correct Answer for CBT Item #5: Technology-Enhanced Item

Part B

$$23x - 27$$

Correct Answer for CBT Item #6: Technology-Enhanced Item

Hazel	Michel	Anita
$1\frac{1}{8}$ mph	$1\frac{1}{4}$ mph	$\frac{9}{10}$ mph

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

The probability of selecting a strip of paper that has a **1** on it is **0.19**.

The probability of selecting a strip of paper that has an even number on it is **0.57**.

Correct Answer for CBT Item #18: Technology-Enhanced Item

Name of Shape	Sliced Parallel to the Base	Sliced Perpendicular to the Base	Neither
Rectangle	☐	☒	☐
Hexagon	☐	☐	☒
Circle	☒	☐	☐