

Computer-Based Released Items

Grade 4 MCAS Mathematics

Spring 2025

The spring 2025 grade 4 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 item from the *computer-based test*, including the following: reporting category, standard covered, item type, item description, and correct answer (for selected-response and short-answer items only). This information is also provided for unreleased operational items. 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 4 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 4 Mathematics
Spring 2025 Computer-Based Released Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description	Correct Answer (SR)**
1	<i>Number and Operations-Fractions</i>	4.NF.A.2	SR	Identify a fraction that will make a comparison statement with another fraction true.	D
2	<i>Operations and Algebraic Thinking</i>	4.OA.B.4	SR	Identify whether given numbers are prime or composite.	<i>see page 6</i>
3	<i>Number and Operations-Fractions</i>	4.NF.B.3	CR	Solve word problems by identifying an equation that shows the sum of two fractions, justifying if a given equation is correct or not, adding and subtracting fractions, and subtracting mixed numbers.	
4	<i>Measurement and Data</i>	4.MD.A.3	SR	Determine the perimeter and the units used to measure perimeter of a rectangle.	<i>see page 6</i>
5	<i>Geometry</i>	4.G.A.1	SR	Identify shapes that have a pair of parallel sides.	A,D,E
6	<i>Number and Operations in Base Ten</i>	4.NBT.A.3	SR	Round a six-digit whole number to the nearest thousand.	B
7	<i>Number and Operations in Base Ten</i>	4.NBT.A.2	SR	Match numbers written in expanded form to their equivalent numbers written in word form, and compare numbers written in word form to a number in standard form.	<i>see page 7</i>
8	<i>Operations and Algebraic Thinking</i>	4.OA.A.2	SR	Choose multiplication and division equations that can be used to solve a word problem involving a multiplicative comparison.	A,B,E
9	<i>Measurement and Data</i>	4.MD.C.5	SR	Give the measure of an angle that turns through a portion of a circle.	B
10	<i>Geometry</i>	4.G.A.3	SR	Determine whether lines on geometric figures represent lines of symmetry.	<i>see page 8</i>
11	<i>Number and Operations-Fractions</i>	4.NF.B.4	SR	Solve a word problem by multiplying a fraction and a whole number.	A
12	<i>Number and Operations in Base Ten</i>	4.NBT.B.4	SR	Subtract a four-digit whole number from a five-digit whole number.	B
13	<i>Number and Operations-Fractions</i>	4.NF.C.7	SA	Write a decimal that is less than a number shown on a visual model and is greater than one-half.	any decimal number less than 0.09
14	<i>Measurement and Data</i>	4.MD.A.1	CR	Identify a liquid measurement in liters from a diagram, convert liters to milliliters, convert hours and minutes to only minutes, and compare masses given in different metric units.	
15	<i>Measurement and Data</i>	4.MD.C.6	SR	Determine measures of angles using a protractor.	<i>see page 8</i>
16	<i>Operations and Algebraic Thinking</i>	4.OA.B.4	SR	Identify factors of a given two-digit number.	B,C,E

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description	Correct Answer (SR)**
17	<i>Number and Operations-Fractions</i>	4.NF.C.6	SA	Write a given decimal as a fraction with a denominator of 100.	<i>see page 8</i>
18	<i>Number and Operations in Base Ten</i>	4.NBT.B.6	SR	Determine the whole number quotient of a four-digit dividend and a one-digit divisor.	A
19	<i>Operations and Algebraic Thinking</i>	4.OA.C.5	SA	Determine the next term of a pattern given the first four terms of the pattern.	198
20	<i>Number and Operations in Base Ten</i>	4.NBT.B.5	SR	Determine if the given products of a three-digit number and a one-digit number are correct.	<i>see page 8</i>

* 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 6–8 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 4 Mathematics
Spring 2025 Computer-Based Unreleased Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
21	<i>Number and Operations—Fractions</i>	4.NF.C.5	SR	Determine which fraction is equivalent to a given fraction with a denominator of 100.
22	<i>Number and Operations in Base Ten</i>	4.NBT.B.4	SA	Given one three-digit addend and the four-digit sum, determine the missing addend.
23	<i>Measurement and Data</i>	4.MD.C.7	SR	Create an equation that can be used to determine the unknown measure of an angle, given the measure of another angle and the sum of the two angles' measures.
24	<i>Operations and Algebraic Thinking</i>	4.OA.C.5	SR	Identify the next shape in a given pattern.
25	<i>Number and Operations in Base Ten</i>	4.NBT.B.5	SA	Find the product of two two-digit whole numbers.
26	<i>Number and Operations—Fractions</i>	4.NF.C.7	SR	Identify correct comparisons of decimals given in tenths and hundredths.
27	<i>Number and Operations in Base Ten</i>	4.NBT.A.1	SR	Complete division equations based on the place values of the digits in the dividend and divisor.
28	<i>Number and Operations—Fractions</i>	4.NF.C.5	SR	Determine which expression is equivalent to a given expression by creating equivalent fractions with denominators of 10 and 100.
29	<i>Operations and Algebraic Thinking</i>	4.OA.A.3	CR	Solve multi-step word problems by using addition, multiplication, and division of whole numbers and by writing and solving an equation.
30	<i>Number and Operations—Fractions</i>	4.NF.B.4	SR	Determine which fraction model represents the product of a whole number and a unit fraction.
31	<i>Measurement and Data</i>	4.MD.B.4	SR	Solve a word problem with addition of fractions by using data from a dot plot.
32	<i>Operations and Algebraic Thinking</i>	4.OA.A.1	SR	Interpret a multiplication equation to complete written statements of multiplicative comparison.
33	<i>Geometry</i>	4.G.A.2	CR	Classify figures based on the presence or absence of perpendicular, parallel, or congruent sides; explain how a right angle determines the classification of a figure; and justify a mathematical name for a given figure.
34	<i>Operations and Algebraic Thinking</i>	4.OA.A.1	SA	Write an equation with a variable for the unknown that can be used to solve a given word problem involving multiplicative comparison.
35	<i>Number and Operations in Base Ten</i>	4.NBT.A.3	SR	Round six-digit whole numbers to the nearest hundred thousand.
36	<i>Number and Operations—Fractions</i>	4.NF.A.2	SR	Determine which mixed numbers have a value that is between two given mixed numbers.
37	<i>Measurement and Data</i>	4.MD.A.2	SR	Solve a word problem involving weight.
38	<i>Number and Operations—Fractions</i>	4.NF.A.1	SA	Create a fraction model to show a fraction that is equivalent to a given fraction and identify equivalent fractions that are greater than 1.

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
39	<i>Number and Operations– Fractions</i>	4.NF.B.3	SR	Create and solve an equation for a real-world problem involving addition of fractions with like denominators and with a sum greater than one.
40	<i>Measurement and Data</i>	4.MD.C.5	SR	Given an angle measurement, identify the correct statement about the part of a circle the angle turns through.

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

Correct Answer for CBT Item #2: Technology-Enhanced Item

Composite	Prime
4	7
18	43
25	

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

The floor of the room has a perimeter of

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

Part A

sixty-three thousand, eight hundred one

$$60,000 + 3,000 + 800 + 1$$

six thousand, three hundred eighty-one

$$(6 \times 1,000) + (3 \times 100) + (8 \times 10) + (1 \times 1)$$

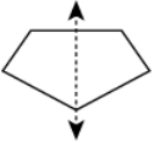
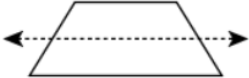
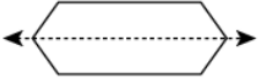
sixty thousand, three hundred eighty-one

$$(6 \times 10,000) + (3 \times 100) + (8 \times 10) + (1 \times 1)$$

Part B

Number	Less Than 13,084	Greater Than 13,084
thirteen thousand, eight hundred thirty-one	☐	☒
thirteen thousand, seven	☒	☐
thirteen thousand, one hundred six	☐	☒

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

Figure	Line of Symmetry	Not a Line of Symmetry
	☒	☐
	☐	☒
	☒	☐

Correct Answer for CBT Item #15: Technology-Enhanced Item

The measure of angle *PLM* is degrees.
The measure of angle *KLP* is degrees.

Correct Answer for CBT Item #17: Technology-Enhanced Item

49

100

Correct Answer for CBT Item #20: Technology-Enhanced Item

Equation	True	False
$257 \times 5 = 1,235$	☐	☒
$384 \times 9 = 3,456$	☒	☐
$601 \times 7 = 4,207$	☒	☐