RIDE Rhode Island Department of Education

# *Release of Spring 2024 RICAS Test Information—Spanish*

*from the*

# *Grade 4 Mathematics Test*

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**Rhode Island Department of Education**


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# *Overview of Grade 4 Mathematics Test*

The spring 2024 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.

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, multiple-select, or short-answer items that tested the same Mathematics content and assessed the same standard as the technology-enhanced item.

The Department is not releasing items from the spring 2024 RICAS grades 3–8 tests. Released items from previous years' computer-based tests are available on the RICAS Resource Center website at ricas.pearsonsupport.com/released-items.

## Test Sessions and Content Overview

The grade 4 Mathematics test 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 grade 4 Mathematics test was based on standards in the five domains for grade 4 in the *Massachusetts Curriculum Framework for Mathematics* (2017). The five domains are listed below.

- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Number and Operations—Fractions
- Measurement and Data
- Geometry

The *Massachusetts Curriculum Framework for Mathematics* is available on the Department website at www.doe.mass.edu/frameworks/current.html.

Mathematics test results are reported under five MCAS reporting categories, which are identical to the five framework domains listed above.

The tables at the conclusion of this document provide the following information about each operational item: reporting category, standard(s) covered, item type, and item description.

## Reference Materials and Tools

Each student taking the grade 4 Mathematics test was provided with a ruler.

During both Mathematics test sessions, the use of authorized bilingual word-to-word dictionaries and glossaries was allowed for students who are currently or were ever reported as English learners. No calculators, other reference tools, or materials were allowed.

# Grade 4 Mathematics
# Spring 2024 Computer-Based Operational Items

| CBT Item No. | Reporting Category | Standard | Item Type* | Item Description |
|---|---|---|---|---|
| 1 | *Number and Operations-Fractions* | 4.NF.C.6 | SR | Identify the decimal that is equivalent to a fraction with a denominator of 100. |
| 2 | *Operations and Algebraic Thinking* | 4.OA.A.1 | SA | Write an equation that represents a verbal statement of multiplicative comparison. |
| 3 | *Number and Operations in Base Ten* | 4.NBT.B.6 | SR | Determine the whole number quotient with a remainder of a four-digit dividend and one-digit divisor. |
| 4 | *Measurement and Data* | 4.MD.C.7 | SA | Find the measure of an unknown angle when given the measurements of two angles and the sum of all three angles. |
| 5 | *Number and Operations-Fractions* | 4.NF.C.5 | SR | Determine the missing addends in an equation containing fractions with denominators of 10 and 100. |
| 6 | *Number and Operations-Fractions* | 4.NF.B.3 | SR | Find the difference of two fractions, with like denominators, that are represented by fraction models. |
| 7 | *Number and Operations in Base Ten* | 4.NBT.A.2 | CR | Convert between numbers written in word form, expanded form, and number form; compare numbers in the different forms using <, >, or =; and critique the reasoning of a given estimate based on place value. |
| 8 | *Number and Operations in Base Ten* | 4.NBT.B.5 | SR | Identify the four-digit whole number factor and one-digit whole number factor that produce a given product. |
| 9 | *Number and Operations in Base Ten* | 4.NBT.A.3 | SR | Determine which five-digit whole number, when rounded to the nearest ten thousand, results in a given whole number. |
| 10 | *Geometry* | 4.G.A.2 | SR | Identify all of the mathematical names that describe a given shape. |
| 11 | *Number and Operations-Fractions* | 4.NF.B.4 | SR | Identify the product of a whole number and a fraction less than one. |
| 12 | *Measurement and Data* | 4.MD.A.3 | CR | Determine the area and perimeter of a rectangle given the length and width, determine the width of a rectangle given the area and length, and give the dimensions of a rectangle with the same area but a different perimeter as a given rectangle. |
| 13 | *Measurement and Data* | 4.MD.B.4 | SR | Identify the line plot, where not all units are labeled, that represents a set of given data including fractions and mixed numbers. |
| 14 | *Geometry* | 4.G.A.3 | SR | Determine which given figure has a line of symmetry. |
| 15 | *Number and Operations-Fractions* | 4.NF.A.1 | SA | Create a fraction model for a fraction that is equivalent to a given fraction and has a specified denominator. |
| 16 | *Number and Operations in Base Ten* | 4.NBT.B.4 | SA | Subtract a four-digit whole number from another four-digit whole number. |
| 17 | *Geometry* | 4.G.A.1 | SR | Identify a figure that has both an obtuse angle and a pair of perpendicular sides and identify parallel sides on another figure. |
| 18 | *Measurement and Data* | 4.MD.A.1 | SR | Solve a problem involving conversion of liters to milliliters. |
| 19 | *Operations and Algebraic Thinking* | 4.OA.C.5 | SR | Identify features of patterns given a starting number and a rule for each pattern. |
| 20 | *Measurement and Data* | 4.MD.C.5 | SR | Identify which angle has a measure of 180 degrees. |
| 21 | *Geometry* | 4.G.A.2 | SR | Identify a right triangle. |
| 22 | *Number and Operations-Fractions* | 4.NF.A.1 | SA | Create a fraction model to represent a fraction that is equivalent to a given fraction. |
| 23 | *Geometry* | 4.G.A.3 | SR | Determine which given figures have more than one line of symmetry. |
| 24 | *Operations and Algebraic Thinking* | 4.OA.A.2 | CR | Solve word problems by identifying and solving equations and interpreting multiplicative comparisons. |

| CBT Item No. | Reporting Category | Standard | Item Type* | Item Description |
|---|---|---|---|---|
| 25 | *Number and Operations-Fractions* | 4.NF.A.2 | SR | Compare two different fraction models of the same size and shape that represent fractions with different denominators. |
| 26 | *Measurement and Data* | 4.MD.C.6 | SR | Determine the measure of an angle shown on a drawing of a protractor. |
| 27 | *Measurement and Data* | 4.MD.B.4 | SR | Solve a problem with addition and subtraction of fractions by using data from a line plot. |
| 28 | *Number and Operations-Fractions* | 4.NF.C.7 | CR | Identify the greatest decimal in a given group; compare decimals to hundredths using <, >, or =; write a decimal that is between two given decimals; and determine which decimal is closest to a given decimal. |
| 29 | *Number and Operations-Fractions* | 4.NF.C.6 | SA | Plot the point that represents the location of a decimal less than one on a zoom number line. |
| 30 | *Operations and Algebraic Thinking* | 4.OA.B.4 | SR | Solve a word problem by identifying factors of a given whole number. |
| 31 | *Number and Operations-Fractions* | 4.NF.A.2 | SR | Identify which comparison of fractions with different numerators and denominators is true. |
| 32 | *Operations and Algebraic Thinking* | 4.OA.A.3 | SR | Solve a multi-step word problem using multiplication and division of whole numbers. |
| 33 | *Number and Operations in Base Ten* | 4.NBT.B.4 | SA | Determine the sum of a five-digit whole number and a six-digit whole number. |
| 34 | *Number and Operations-Fractions* | 4.NF.B.3 | SA | Solve word problems involving addition and subtraction of mixed numbers with like denominators. |
| 35 | *Operations and Algebraic Thinking* | 4.OA.C.5 | SR | Choose the statement that correctly identifies a feature of a given shape pattern. |
| 36 | *Number and Operations in Base Ten* | 4.NBT.B.6 | SA | Determine the quotient of a four-digit dividend and a one-digit divisor. |
| 37 | *Measurement and Data* | 4.MD.A.2 | SR | Solve word problems by converting measurements given in a larger unit to a smaller unit and using addition and multiplication of whole numbers. |
| 38 | *Number and Operations in Base Ten* | 4.NBT.A.1 | SR | Complete statements that describe the relationships between the values of digits in multi-digit whole numbers. |
| 39 | *Number and Operations-Fractions* | 4.NF.B.4 | SR | Determine which expression is equivalent to the product of a whole number and a fraction. |
| 40 | *Operations and Algebraic Thinking* | 4.OA.A.3 | SR | Solve a multi-step word problem involving addition and estimation. |

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

# Grade 4 Mathematics
# Spring 2024 Paper-Based Operational Items

| PBT Item No. | Reporting Category | Standard | Item Type* | Item Description |
|---|---|---|---|---|
| 1 | *Number and Operations-Fractions* | 4.NF.C.6 | SR | Identify the decimal that is equivalent to a fraction with a denominator of 100. |
| 2 | *Operations and Algebraic Thinking* | 4.OA.A.1 | SR | Identify the equation that represents a verbal statement of multiplicative comparison. |
| 3 | *Number and Operations in Base Ten* | 4.NBT.B.6 | SR | Determine the whole number quotient with a remainder of a four-digit dividend and one-digit divisor. |
| 4 | *Measurement and Data* | 4.MD.C.7 | SA | Find the measure of an unknown angle when given the measurements of two angles and the sum of all three angles. |
| 5 | *Number and Operations-Fractions* | 4.NF.C.5 | SR | Identify the correct addends in an equation containing fractions with denominators of 10 and 100. |
| 6 | *Number and Operations-Fractions* | 4.NF.B.3 | SR | Find the difference of two fractions, with like denominators, that are represented by fraction models. |
| 7 | *Number and Operations in Base Ten* | 4.NBT.A.2 | CR | Convert between numbers written in word form, expanded form, and number form; compare numbers in the different forms using <, >, or =; and critique the reasoning of a given estimate based on place value. |
| 8 | *Number and Operations in Base Ten* | 4.NBT.B.5 | SR | Identify the four-digit whole number factor and one-digit whole number factor that produce a given product. |
| 9 | *Number and Operations in Base Ten* | 4.NBT.A.3 | SR | Determine which five-digit whole number, when rounded to the nearest ten thousand, results in a given whole number. |
| 10 | *Geometry* | 4.G.A.2 | SR | Identify all of the mathematical names that describe a given shape. |
| 11 | *Number and Operations-Fractions* | 4.NF.B.4 | SR | Identify the product of a whole number and a fraction less than one. |
| 12 | *Measurement and Data* | 4.MD.A.3 | CR | Determine the area and perimeter of a rectangle given the length and width, determine the width of a rectangle given the area and length, and give the dimensions of a rectangle with the same area but a different perimeter as a given rectangle. |
| 13 | *Measurement and Data* | 4.MD.B.4 | SR | Identify the line plot, where not all units are labeled, that represents a set of given data including fractions and mixed numbers. |
| 14 | *Geometry* | 4.G.A.3 | SR | Determine which given figure has a line of symmetry. |
| 15 | *Number and Operations-Fractions* | 4.NF.A.1 | SR | Identify a fraction model that is equivalent to a given fraction and has a specified denominator. |
| 16 | *Number and Operations in Base Ten* | 4.NBT.B.4 | SA | Subtract a four-digit whole number from another four-digit whole number. |
| 17 | *Geometry* | 4.G.A.1 | SR | Identify a figure that has both an obtuse angle and a pair of perpendicular sides and identify parallel sides on another figure. |
| 18 | *Measurement and Data* | 4.MD.A.1 | SR | Solve a problem involving conversion of liters to milliliters. |
| 19 | *Operations and Algebraic Thinking* | 4.OA.C.5 | SR | Determine which statements about patterns are true, given a starting number and a rule for each pattern described. |
| 20 | *Measurement and Data* | 4.MD.C.5 | SR | Identify which angle has a measure of 180 degrees. |
| 21 | *Geometry* | 4.G.A.2 | SR | Identify a right triangle. |
| 22 | *Number and Operations-Fractions* | 4.NF.A.1 | SR | Identify a fraction model that represents a fraction that is equivalent to a given fraction. |
| 23 | *Geometry* | 4.G.A.3 | SR | Determine which given figures have more than one line of symmetry. |
| 24 | *Operations and Algebraic Thinking* | 4.OA.A.2 | CR | Solve word problems by identifying and solving equations and interpreting multiplicative comparisons. |

| PBT Item No. | Reporting Category | Standard | Item Type* | Item Description |
|---|---|---|---|---|
| 25 | *Number and Operations-Fractions* | 4.NF.A.2 | SR | Compare two different fraction models of the same size and shape that represent fractions with different denominators. |
| 26 | *Measurement and Data* | 4.MD.C.6 | SR | Determine the measure of an angle shown on a drawing of a protractor. |
| 27 | *Measurement and Data* | 4.MD.B.4 | SR | Solve a problem with addition and subtraction of fractions by using data from a line plot. |
| 28 | *Number and Operations-Fractions* | 4.NF.C.7 | CR | Identify the greatest decimal in a given group; compare decimals to hundredths using <, >, or =; write a decimal that is between two given decimals; and determine which decimal is closest to a given decimal. |
| 29 | *Number and Operations-Fractions* | 4.NF.C.6 | SR | Identify the number line that has a plotted point that represents the location of a given decimal less than one. |
| 30 | *Operations and Algebraic Thinking* | 4.OA.B.4 | SR | Solve a word problem by identifying factors of a given whole number. |
| 31 | *Number and Operations-Fractions* | 4.NF.A.2 | SR | Identify which comparison of fractions with different numerators and denominators is true. |
| 32 | *Operations and Algebraic Thinking* | 4.OA.A.3 | SR | Solve a multi-step word problem using multiplication and division of whole numbers. |
| 33 | *Number and Operations in Base Ten* | 4.NBT.B.4 | SA | Determine the sum of a five-digit whole number and a six-digit whole number. |
| 34 | *Number and Operations-Fractions* | 4.NF.B.3 | SR | Solve word problems involving addition and subtraction of mixed numbers with like denominators. |
| 35 | *Operations and Algebraic Thinking* | 4.OA.C.5 | SR | Choose the statement that correctly identifies a feature of a given shape pattern. |
| 36 | *Number and Operations in Base Ten* | 4.NBT.B.6 | SA | Determine the quotient of a four-digit dividend and a one-digit divisor. |
| 37 | *Measurement and Data* | 4.MD.A.2 | SR | Solve word problems by converting measurements given in a larger unit to a smaller unit and using addition and multiplication of whole numbers. |
| 38 | *Number and Operations in Base Ten* | 4.NBT.A.1 | SR | Identify statements that correctly describe the relationships between the values of digits in multi-digit whole numbers. |
| 39 | *Number and Operations-Fractions* | 4.NF.B.4 | SR | Determine which expression is equivalent to the product of a whole number and a fraction. |
| 40 | *Operations and Algebraic Thinking* | 4.OA.A.3 | SR | Solve a multi-step word problem involving addition and estimation. |

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