

Computer-Based Released Items

Grade 6 Mathematics

Spring 2023

The spring 2023 grade 6 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.

The Department of 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 ricas.pearsonsupport.com/released-items. The computer-based released items are collected in a mini test called an ePAT (electronic practice assessment tool). Items in the ePAT are displayed in TestNav 8, the testing platform for the computer-based tests.
- Released items from the **paper-based test** are available in PDF format on the Department’s website at www.ride.ri.gov/InstructionAssessment/Assessment/ReleasedItemsPracticeTests.aspx

This document provides information about each released item from the *computer-based test*, including the following: reporting category, standard(s) covered, item type, item description, and correct answer (for released selected-response and short-answer items only). Information about unreleased operational items is also presented here.

A Note about Testing Mode

Most of the operational items on the grade 6 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.

Grade 6 Mathematics
Spring 2023 Computer-Based Released Operational Items

| CBT Item No. | Reporting Category | Standard | Item Type* | Item Description | Correct Answer** |
|---------------------|---------------------------------------|-----------------|-------------------|--|-------------------------|
| 1 | Expressions and Equations | 6.EE.B.5 | SR | Solve a two-step equation for an unknown value. | C |
| 2 | The Number System | 6.NS.C.7 | SR | Create inequality statements with and without absolute values. | <i>see page 5</i> |
| 3 | Ratios and Proportional Relationships | 6.RP.A.2 | SA | Determine the unit rate within a real-world context. | 15.75 |
| 4 | Expressions and Equations | 6.EE.A.2 | SA | Evaluate an expression using substitution. | 3 |
| 5 | Geometry | 6.G.A.2 | SR | Solve a real-world problem involving the volume of a right rectangular prism. | D |
| 6 | Statistics and Probability | 6.SP.B.4 | SA | Create a histogram based on given data from a real-world situation. | <i>see page 5</i> |
| 7 | The Number System | 6.NS.B.2 | CR | Solve a real-world problem by dividing multi-digit numbers. | |
| 8 | Ratios and Proportional Relationships | 6.RP.A.1 | SR | Identify the ratios that represent the relationships between given quantities. | <i>see page 5</i> |
| 9 | Ratios and Proportional Relationships | 6.RP.A.3 | SR | Solve a real-world problem that involves finding the part given the percent and the whole. | <i>see page 5</i> |
| 10 | Expressions and Equations | 6.EE.A.4 | SR | Determine which expression is equivalent to a given variable expression. | B |
| 11 | Expressions and Equations | 6.EE.A.3 | SR | Use the distributive property to determine equivalent expressions given a variable expression. | B,D |
| 12 | Statistics and Probability | 6.SP.A.3 | SR | Determine the best measure of variability for a real-world situation. | C |
| 13 | Expressions and Equations | 6.EE.B.6 | SA | Write an expression that represents a given real-world context. | <i>see page 6</i> |
| 14 | Geometry | 6.G.A.1 | CR | Solve mathematical problems that involve decomposing a figure into a right triangle and a trapezoid to determine the total area of the figure. | |
| 15 | Expressions and Equations | 6.EE.A.1 | SR | Translate a given verbal expression to a numerical expression with exponents. | D |
| 16 | Statistics and Probability | 6.SP.A.1 | SR | Identify multiple statistical questions. | D,E |
| 17 | Ratios and Proportional Relationships | 6.RP.A.3 | SR | Use ratio and rate reasoning to solve a real-world problem. | <i>see page 6</i> |
| 18 | Expressions and Equations | 6.EE.A.2 | SR | Determine which mathematical expression represents a verbal description. | D |

| | | | | | |
|----|----------------------------|----------|----|--|-------------------|
| 19 | Statistics and Probability | 6.SP.B.5 | SR | Determine the mean for a set of data represented in a table. | D |
| 20 | Expressions and Equations | 6.EE.A.4 | SR | Use the distributive property to determine which expressions in a table are equivalent to a given variable expression and which are not. | <i>see page 6</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 5 and 6 of this document provide correct answers for technology-enhanced (TE) items. Sample responses and scoring guidelines for constructed-response items will be posted to the Department's website later this year.

Grade 6 Mathematics
Spring 2023 Computer-Based Unreleased Operational Items

| CBT Item No. | Reporting Category | Standard | Item Type* | Item Description |
|---------------------|---------------------------------------|-----------------|-------------------|--|
| 21 | The Number System | 6.NS.C.8 | SR | Use absolute value to determine the distance between two points on a coordinate plane given a mathematical context. |
| 22 | Statistics and Probability | 6.SP.B.5 | SA | Identify the number of observations on a histogram. |
| 23 | Statistics and Probability | 6.SP.A.1 | SR | Identify multiple statistical questions. |
| 24 | Expressions and Equations | 6.EE.B.6 | CR | Create and evaluate expressions based on a real-world situation. |
| 25 | The Number System | 6.NS.B.2 | SR | Determine whether given division equations are true or false. |
| 26 | The Number System | 6.NS.C.7 | SA | Identify a rational number that is within a range of other rational numbers. |
| 27 | Geometry | 6.G.A.4 | SR | Use the net of a triangular prism to find its surface area. |
| 28 | The Number System | 6.NS.C.6 | SR | Determine the value of a given point on a number line. |
| 29 | Expressions and Equations | 6.EE.C.9 | SR | Interpret the relationship between two variables and use the relationship to create an equation. |
| 30 | Geometry | 6.G.A.3 | SA | Find the length of the side of a polygon by finding the distance between points on a coordinate plane. |
| 31 | Statistics and Probability | 6.SP.B.4 | SR | Determine which histogram represents a given set of data. |
| 32 | The Number System | 6.NS.C.8 | SR | Identify the location of a given point on a coordinate plane. |
| 33 | Ratios and Proportional Relationships | 6.RP.A.3 | CR | Using ratio and proportional reasoning, solve real-world problems involving fractions, decimals, percentages, and whole numbers. |
| 34 | Ratios and Proportional Relationships | 6.RP.A.2 | SR | Determine which ratios are equivalent to a given unit rate. |
| 35 | The Number System | 6.NS.C.8 | SR | Determine the location of a point on a coordinate plane based on its distance from a given point. |
| 36 | Statistics and Probability | 6.SP.A.2 | SR | Analyze a dot plot using median, mode, and range. |
| 37 | Expressions and Equations | 6.EE.A.2 | SR | Identify expressions using mathematical terms such as sum, product, quotient, and difference. |
| 38 | Expressions and Equations | 6.EE.A.2 | SR | Create a verbal description that represents a mathematical expression. |
| 39 | Geometry | 6.G.A.3 | SR | Determine the type of a polygon given the coordinates of its vertices. |
| 40 | Ratios and Proportional Relationships | 6.RP.A.3 | SR | Solve a real-world problem involving percentages. |

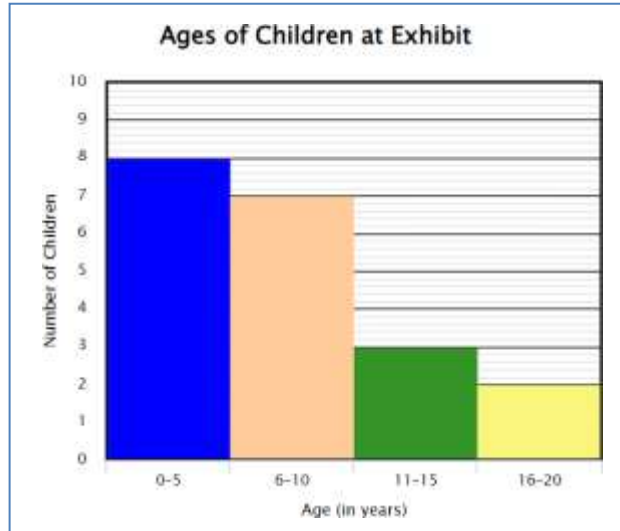
* Mathematics item types are selected-response (SR), short-answer (SA), and constructed-response (CR).

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

The number -24 is the number -18 .

The expression $|-24|$ is the expression $|-18|$.

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



Correct Answer for CBT Item #8: Technology-Enhanced Item

| Relationship | 7:8 | $\frac{7}{2}$ | 21 to 51 |
|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| flamingos to penguins | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| flamingos to all birds at the zoo | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| flamingos to storks | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |

Correct Answer for CBT Item #9: Technology-Enhanced Item

The sixth-grade students collected soda cans.

The seventh-grade students collected soda cans.

Correct Answer for CBT Item #13: Technology-Enhanced Item

$6w$ or $6(w)$
or other mathematically equivalent expression

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

| | |
|----------------|--|
| Part A: | |
| Part B: | |

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

| Expression | Equivalent | Not Equivalent |
|------------------|----------------------------------|----------------------------------|
| $11x + 12y$ | <input type="radio"/> | <input checked="" type="radio"/> |
| $18x + 20y$ | <input checked="" type="radio"/> | <input type="radio"/> |
| $2(9x) + 2(10y)$ | <input checked="" type="radio"/> | <input type="radio"/> |
| $2(19xy)$ | <input type="radio"/> | <input checked="" type="radio"/> |

y