Computer-Based Released Items
Grade 7 Mathematics
Spring 2023

The spring 2023 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.

The Department of Education is releasing items from both versions of the test toprovide 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 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, multiple-select, or short-answer items that tested the same Mathematics content and assessed the same standard as the technology-enhanced item.

Grade 7 Mathematics
Spring 2023 Computer-Based Released Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description	Correct Answer**
1	Ratios and Proportional Relationships	7.RP.A.2	SR	Determine which proportion can be used to find a missing value, given a scale.	B
2	Expressions and Equations	7.EE.A.1	SR	Determine which expression represents a factored form of a given expression.	C
3	Statistics and Probability	7.SP.C.6	SA	Approximate the probability of a chance event by analyzing its long-run relative frequency, given the relative frequency of a spinner.	*see page 5*
4	Ratios and Proportional Relationships	7.RP.A.1	CR	Determine unit rates associated with ratios of fractions and use them to solve real-world problems.	
5	Expressions and Equations	7.EE.B.4	SR	Determine which solution satisfies given simple equations.	*see page 5*
6	Geometry	7.G.A.3	SR	Determine which statement correctly describes a way that a three-dimensional figure could be sliced to result in a given two-dimensional shape.	A
7	The Number System	7.NS.A.2	SR	Determine a decimal equivalent of a given fraction.	B
8	Statistics and Probability	7.SP.B.4	SR	Determine the possible mean and mean absolute deviation for two sets of data in a real-world context.	B
9	Expressions and Equations	7.EE.B.4	SA	Extend a pattern to find a number in the pattern, and choose an expression that represents the general rule of the pattern.	Part A: 23 Part B: D
10	Expressions and Equations	7.EE.A.2	SR	Determine which expressions are equivalent to a verbal description of a real-world context.	A,C
11	Expressions and Equations	7.EE.B.4	SR	Determine which inequality, in the form px+q<r, can be used to represent a real-world situation.	B
12	Expressions and Equations	7.EE.B.3	SR	Solve a multi-step, real-world problem involving percent increases with money.	*see page 5*
13	The Number System	7.NS.A.3	CR	Use operations on integers and rational numbers to solve a real-world problem.	
14	Statistics and Probability	7.SP.C.8	SR	Identify the outcomes in a sample space represented by a tree diagram.	*see page 5*
15	Geometry	7.G.A.2	SR	Determine whether the given conditions of a triangle represent a unique triangle, more than one triangle, or no triangle.	A
16	Statistics and Probability	7.SP.C.5	SA	Determine the likelihood of events occurring based on the probability of a list of chance events.	*see page 6*
17	Geometry	7.G.B.4	SR	Determine the radius and the area given the diameter of a circle.	*see page 6*
18	Statistics and Probability	7.SP.B.3	SR	Determine the difference of the ranges of data displayed in a double box plot.	D

| 19 | Ratios and Proportional Relationships | 7.RP.A.3 | SR | Use proportional relationships to solve a multi-step ratio problem. | A |
| 20 | Geometry | 7.G.B.5 | SR | Identify angles in a diagram that represent vertical angles. | *see page 6* |

* Mathematics item types are selected-response (SR), short-answer (SA), and constructed-response (CR).
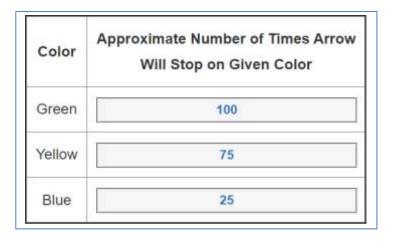
** Answers are provided here for selected-response and short-answer items only. Pages 5 and 6 of this document provide correct answers for technology-enhanced (TE) items. Sample responses and scoring guidelines for constructed-response items will be posted to the Department's website later this year.

Grade 7 Mathematics
Spring 2023 Computer-Based Unreleased Operational Items

CBT Item No.	Reporting Category	Standard	Item Type*	Item Description
21	Ratios and Proportional Relationships	7.RP.A.1	SA	Determine the unit rate associated with ratios of fractions, and use the unit rate to solve a real-world problem.
22	Expressions and Equations	7.EE.B.3	SR	Determine the reasonableness of an estimated solution to a real-world problem using rational numbers expressed as whole numbers, fractions, and percentages.
23	Expressions and Equations	7.EE.A.1	SR	Determine which expression is equivalent to a given expression.
24	Expressions and Equations	7.EE.B.3	SA	Solve a real-world problem using operations with rational numbers.
25	Statistics and Probability	7.SP.C.8	CR	Find the probability of a compound event using a tree diagram and simulation, and make an organized list based on the simulation.
26	The Number System	7.NS.A.3	SR	Solve a real-world problem involving the four operations with positive and negative integers using elevation as a context.
27	The Number System	7.NS.A.1	SA	Determine the solution of an equation involving subtraction of two rational numbers, and plot the solution on a number line.
28	The Number System	7.NS.A.2	SR	Convert a rational number to a decimal.
29	Ratios and Proportional Relationships	7.RP.A.2	SR	Determine which table represents a proportional relationship between two quantities.
30	The Number System	7.NS.A.1	SA	Determine the value of an expression containing positive and negative mixed numbers.
31	The Number System	7.NS.A.3	SR	Solve a multi-step, real-world problem by converting units.
32	Statistics and Probability	7.SP.B.4	SR	Determine which comparative statement involving the mean and the range within a real-world context is true based on given data.
33	Expressions and Equations	7.EE.A.1	SA	Determine which expression is equivalent to a given expression.
34	Statistics and Probability	7.SP.C.7	SR	Determine the probability of an event using a uniform probability model.
35	Ratios and Proportional Relationships	7.RP.A.2	SR	Determine which proportion represents a given verbal description of a proportional relationship.
36	The Number System	7.NS.A.3	SA	Solve a real-world problem involving the four operations.
37	Geometry	7.G.A.1	CR	Identify and apply a scale to determine the dimensions and areas of rectangles given in a real-world context.
38	Ratios and Proportional Relationships	7.RP.A.2	SA	Interpret the proportional relationship shown in a graph, use it to create an equation, and solve a problem.
39	Expressions and Equations	7.EE.A.2	SR	Determine which expressions can be used to represent a real-world situation.
40	Expressions and Equations	7.EE.B.3	SA	Solve a real-world, multi-step problem involving mixed numbers, percentages, and whole numbers.

* Mathematics item types are selected-response (SR), short-answer (SA), and constructed-response (CR).
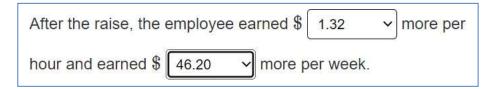
Correct Answer for CBT Item #3: Technology-Enhanced Item

Color	Approximate Number of Times Arrow Will Stop on Given Color
Green	100
Yellow	75
Blue	25

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

Equation	$x = 4$	$x = 7$
$x = \frac{(20-6)}{2}$	○	●
$x = \frac{(10+2)}{3}$	●	○
$x = \frac{(23+5)}{4}$	○	●

Correct Answer for CBT Item #12: Technology-Enhanced Item

After the raise, the employee earned $ [1.32 ▾] more per hour and earned $ [46.20 ▾] more per week.

Correct Answer for CBT Item #14: Technology-Enhanced Item

There are a total of [12 ▾] cars of this brand for sale at the dealership.

There are a total of [4 ▾] silver cars of this brand for sale at the dealership.

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

Unlikely	Likely	Neither Unlikely nor Likely
The student has no siblings.	The student has short hair.	The student has a cell phone.
	The student has a pet.	

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

The radius of the circle has a length of [3 ⌄] inches.

The area of the circle is [9π ⌄] square inches.

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