

Grade 7 Mathematics Computer-Based Released Items

The spring 2017 grade 7 Mathematics test was administered in two formats: a computer-based version and a paper-based version.

Released items from the **computer-based version** of the test are available online at mcas.pearsonsupport.com/released-items. This document provides information about each released item from the computer-based test, including: reporting category, standard(s) covered, item type, item description, and correct answer (for selected-response and short-answer items only). Information about unreleased operational items is also presented here.

Released items from the **paper-based version** of the test are available on the Department's website at www.doe.mass.edu/mcas/testitems.html.

Grade 7 Mathematics
Spring 2017 Computer-Based Released Operational Items:
Reporting Categories, Standards, Item Descriptions, and Correct Answers

Item No.	Reporting Category	Standard	Item Type*	Description	Correct Answer**
1	<i>The Number System</i>	7.NS.1.03	CR	Solve a real-world problem involving the four operations on rational numbers.	
2	<i>Ratios and Proportional Relationships</i>	7.RP.1.01	SR	Calculate the unit rate in a given real-world context.	A
3	<i>Expressions and Equations</i>	7.EE.2.04	SR	Determine which number line shows the solution set of an inequality based on a real-world situation.	B
4	<i>Statistics and Probability</i>	7.SP.1.01	SA	Use the statistics from a random sample to determine additional information about the real-world situation.	1000 cans
5	<i>Geometry</i>	7.G.2.04	SR	Find the area based on the dimensions of a circle in a given real-world context.	B

* 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. Sample responses and scoring guidelines for any constructed-response items will be posted to the Department's website later this year.

Grade 7 Mathematics
Spring 2017 Computer-Based Unreleased Operational Items:
Reporting Categories, Standards, and Item Descriptions

Item No.	Reporting Category	Standard	Item Type*	Description
6	<i>The Number System</i>	7.NS.1.01	SR	Determine which real-world context describes a situation in which opposite quantities combine to make zero.
7	<i>Ratios and Proportional Relationships</i>	7.RP.1.02	SA	Calculate the unit rate in a given real-world context.
8	<i>Geometry</i>	7.G.1.02	SR	Determine which triangle is best described by given conditions, and select a statement that describes other possible triangles with the same given conditions.
9	<i>Expressions and Equations</i>	7.EE.1.01	SR	Determine which expression is equivalent to a given expression.
10	<i>Expressions and Equations</i>	7.EE.1.02	SR	Determine which expression is a rewrite of a given expression in a real-world context.
11	<i>Ratios and Proportional Relationships</i>	7.RP.1.03	SA	Solve a multi-step real-world problem involving ratio and percents.

Item No.	Reporting Category	Standard	Item Type*	Description
12	<i>Statistics and Probability</i>	7.SP.3.05	SR	Find the only unknown probability in a real-world context, given the other probabilities.
13	<i>The Number System</i>	7.NS.1.01	SA	Solve a real-world problem using the understanding that subtraction of a rational number is adding the additive inverse.
14	<i>The Number System</i>	7.NS.1.02	SA	Find the value of a given expression.
15	<i>The Number System</i>	7.NS.1.02	CR	Review and solve a given long division problem, and explain the results in respect to a terminating or repeating decimal.
16	<i>Expressions and Equations</i>	7.EE.1.01	SR	Determine which expression is equivalent to a given expression.
17	<i>Statistics and Probability</i>	7.SP.3.08	SA	Solve real-world problems involving a simulation of the probability of a compound event.
18	<i>The Number System</i>	7.NS.1.01	SA	Find the value of a given expression.
19	<i>The Number System</i>	7.NS.1.01	SR	Determine which values can be used to create an expression that is equivalent to a given expression.
20	<i>Statistics and Probability</i>	7.SP.2.04	SR	Determine which comparative inference about a real-world context is true, based on the information given in a table.
21	<i>Geometry</i>	7.G.1.03	SR	Determine which two-dimensional figure will not be the result from slicing a shown three-dimensional figure.
22	<i>Expressions and Equations</i>	7.EE.2.03	SA	Solve a multi-step real-world problem to write and solve an expression.
23	<i>Ratios and Proportional Relationships</i>	7.RP.1.02	SR	Determine which point on a graph represents the given meaning of the proportional relationship in a real-world context.
24	<i>Expressions and Equations</i>	7.EE.2.04	SR	Determine which expression represents a given real-world context.
25	<i>Ratios and Proportional Relationships</i>	7.RP.1.03	SA	Solve a multi-step real-world problem involving ratio and percents.
26	<i>Statistics and Probability</i>	7.SP.3.05	SR	Calculate the probability of two events and their likeliness or unlikeliness in a real-world context, given additional probabilities.
27	<i>Geometry</i>	7.G.2.06	CR	Solve real-world problems involving area and volume for right prisms of varying dimensions.
28	<i>Expressions and Equations</i>	7.EE.2.03	SR	Solve a real-world problem that involves rational numbers in different forms.
29	<i>Geometry</i>	7.G.2.05	SA	Solve multi-step real-world problems using facts about supplementary, complementary, vertical, and adjacent angles.
30	<i>Statistics and Probability</i>	7.SP.2.04	SR	Determine which comparative inference about a real-world context is true based on the information given in a table.
31	<i>Geometry</i>	7.G.2.07	SR	Find the surface area based on the dimensions of a sphere in a given real-world context.
32	<i>Statistics and Probability</i>	7.SP.1.01	SR	Determine which random sample would provide information sought in a given real-world context.
33	<i>Statistics and Probability</i>	7.SP.1.02	SA	Use the statistics from different random samples to determine overall percentage in a real-world situation.
34	<i>Expressions and Equations</i>	7.EE.2.04	CR	Create, explain the creation of, and solve expressions, based on a given real-world context.

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