Grade 5 Mathematics Computer-Based Released Items

The spring 2017 grade 5 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 5 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	*Number & Operations in Base Ten*	5.NBT.2.06	CR	Solve real-world problems involving writing equations, and division of a three-digit whole number and a two-digit whole number.	
2	*Operations & Algebraic Thinking*	5.OA.1.02	SR	Determine which expression represents a given real-world context.	A
3	*Geometry*	5.G.1.01	SR	Determine which point represents the location of a given ordered pair on a coordinate plane.	D
4	*Measurement & Data*	5.MD.2.02	SR	Solve a real-world problem presented on a line plot by adding fractions.	C
5	*Measurement & Data*	5.MD.1.01	SA	Convert meters to centimeters in a real-world context.	185 centimeters

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

Item No.	Reporting Category	Standard	Item Type*	Description
6	*Geometry*	5.G.1.02	SR	Determine which relationship is represented by points that are graphed in a coordinate plane based on a real-world context.
7	*Operations & Algebraic Thinking*	5.OA.2.03	SR	Determine which number from a pattern corresponds to a number in a second pattern.
8	*Operations & Algebraic Thinking*	5.OA.1.01	SR	Find the value that is equivalent to a given expression with parentheses.
9	*Number & Operations in Base Ten*	5.NBT.2.05	SA	Determine the product of a multiplication problem with a two-digit whole number and a four-digit whole number.
10	*Number & Operations in Base Ten*	5.NBT.1.03.a	SR	Identify the numbers or fractions that can be used to complete an equation with a decimal written in expanded form.
11	*Measurement & Data*	5.MD.3.05.c	SA	Solve problems involving finding the volumes of given rectangular prisms in a real-world context.
12	*Operations & Algebraic Thinking*	5.OA.1.01	SR	Find the value of a given expression with parentheses.
13	*Number & Operations in Base Ten*	5.NBT.1.03	SR	Find the least value from a table that includes mixed numbers and decimals.

Item No.	Reporting Category	Standard	Item Type*	Description
14	*Number & Operations-Fractions*	5.NF.2.04.b	SR	Determine the area of a rectangle with fractional side lengths.
15	*Number & Operations-Fractions*	5.NF.1.01	SA	Determine the sum of two fractions with unlike denominators.
16	*Number & Operations-Fractions*	5.NF.1.02	SR	Determine whether a student has correctly estimated the sum of two fractions based on benchmark fractions, and choose the best justification for your answer.
17	*Number & Operations-Fractions*	5.NF.2.04.a	SR	Find the product of a fraction and a whole number.
18	*Operations & Algebraic Thinking*	5.OA.2.03	SR	Determine which statement describes two given patterns.
19	*Geometry*	5.G.1.02	SR	Determine which points on a coordinate plane correspond to given ordered pairs.
20	*Number & Operations-Fractions*	5.NF.2.05.a	SR	Determine which number sentence correctly compares the product of a fraction and a whole number to one of the factors.
21	*Measurement & Data*	5.MD.3.05	CR	Solve a real-world problem by finding the volumes of rectangular prisms.
22	*Number & Operations in Base Ten*	5.NBT.1.04	SA	Given a real-world context, round a given decimal to the nearest tenth.
23	*Operations & Algebraic Thinking*	5.OA.1.02	SR	Select the expression that represents its written equivalent.
24	*Number & Operations-Fractions*	5.NF.2.03	SR	Given a real-world context, select the two whole numbers between which a fraction lies.
25	*Number & Operations-Fractions*	5.NF.2.07.b	SR	Determine which visual fraction model represents a whole number divided by a unit fraction.
26	*Number & Operations-Fractions*	5.NF.2.07.c	SA	Determine the quotient of a whole number divided by a fraction in a real-world context.
27	*Geometry*	5.G.2.03	SR	Identify which two-dimensional figures are rectangles.
28	*Number & Operations-Fractions*	5.NF.1.01	SR	Solve real-world problems by determining the sum of mixed numbers and fractions with unlike denominators.
29	*Operations & Algebraic Thinking*	5.OA.1.01	SR	Find the value of a given expression with parentheses.
30	*Number & Operations in Base Ten*	5.NBT.1.02	SA	Determine the quotient of a decimal and a power of ten.
31	*Measurement & Data*	5.MD.3.04	CR	Find the volume of a figure by counting cubes, and determine the dimensions of a rectangular prism with the same volume in a real-world context.
32	*Operations & Algebraic Thinking*	5.OA.1.01	SA	Determine the value of a given expression with two sets of parentheses.
33	*Operations & Algebraic Thinking*	5.OA.2.03	SR	Select the pattern that follows a rule of another given pattern.
34	*Number & Operations in Base Ten*	5.NBT.2.07	SA	Determine the sum of two decimals based on a real-world context.
35	*Number & Operations-Fractions*	5.NF.2.04.a	SR	Find the product of two fractions based on real-world context.
36	*Number & Operations-Fractions*	5.NF.2.03	SR	Divide whole numbers and determine between which two whole numbers a fraction lies in a real-world context.
37	*Operations & Algebraic Thinking*	5.OA.1.02	SR	Create an expression that represents a written equivalent using given numbers and operations.
38	*Number & Operations in Base Ten*	5.NBT.2.07	CR	Solve real-world problems involving addition, subtraction and multiplication of decimals.
39	*Number & Operations-Fractions*	5.NF.1.02	SR	Determine which fraction would not be a reasonable estimate for the difference of two fractions with unlike denominators.
40	*Geometry*	5.G.1.01	SA	Determine the *y*-coordinate of a point graphed on a given coordinate plane.

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