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Our Students. Their Moment.

New York State Testing Program
Grade 5
Mathematics Test

Released Questions

June 2019

New York State administered the Mathematics Tests in May 2019
and is now making approximately 75% of the
questions from these tests available for review and use.

New York State Testing Program
Grades 3–8 Mathematics

Released Questions from 2019 Exams

Background

In 2013, New York State began administering tests designed to assess student performance in accordance with the instructional shifts and rigor demanded by the new New York State P-12 Learning Standards in Mathematics. To help in this transition to new assessments, the New York State Education Department (SED) has been releasing an increasing number of test questions from the tests that were administered to students across the State in the spring. This year, SED is again releasing large portions of the 2019 NYS Grades 3-8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2019, included in these released materials are at least 75 percent of the test questions that appeared on the 2019 tests (including all constructed-response questions) that counted toward students' scores. Additionally, SED is also providing a map that details what each released question measures and the correct response to each question. These released materials will help students, families, educators, and the public better understand the tests and the New York State Education Department's expectations for students.

Understanding Math Questions

Multiple-Choice Questions

Multiple-choice questions are designed to assess the New York State P-12 Learning Standards for Mathematics. Mathematics multiple-choice questions will be used mainly to assess standard algorithms and conceptual standards. Multiple-choice questions incorporate both the grade-level standards and the "Standards for Mathematical Practices." Many questions are framed within the context of real-world applications or require students to complete multiple steps. Likewise, many of these questions are linked to more than one standard, drawing on the simultaneous application of multiple skills and concepts.

Short-Response Questions

Short-response questions require students to complete tasks and show their work. Like multiple-choice questions, short-response questions will often require multiple steps, the application of multiple mathematics skills, and real-world applications. Many of the short-response questions will cover conceptual and application of the standards.

Extended-Response Questions

Extended-response questions ask students to show their work in completing two or more tasks or a more extensive problem. Extended-response questions allow students to show their understanding of mathematical procedures, conceptual understanding, and application. Extended-response questions may also assess student reasoning and the ability to critique the arguments of others.

The scoring rubric for short and extended constructed-response questions can be found in the grade-level Educator Guides at https://www.engageny.org/resource/test-guides-english-language-arts-andmathematics.

New York State P-12 Learning Standards Alignment

The alignment(s) to the New York State P-12 Learning Standards for Mathematics is/are intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedure and conceptual understanding. For example, two-point and three-point constructed-response questions require students to show an understanding of mathematical procedures, concepts, and applications.

These Released Questions Do Not Comprise a "Mini Test"

To ensure future valid and reliable tests, some content must remain secure for possible use on future exams. As such, this document is *not* intended to be representative of the entire test, to show how operational tests look, or to provide information about how teachers should administer the test; rather, its purpose is to provide an overview of how the test reflects the demands of the New York State P-12 Learning Standards.

The released questions do not represent the full spectrum of the standards assessed on the State tests, nor do they represent the full spectrum of how the standards should be taught and assessed in the classroom. It should not be assumed that a particular standard will be measured by an identical question in future assessments. Specific criteria for writing test questions, as well as additional assessment information, are available at http://www.engageny.org/common-core-assessments.

Name: _____

New York State Testing Program

2019 Mathematics Test Session 1

Grade 5

May 1–3, 2019

RELEASED QUESTIONS

Grade 5 Mathematics Reference Sheet

CONVERSIONS

1 mile = 5,280 feet
1 mile = 1,760 yards

1 pound = 16 ounces
1 ton = 2,000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 liter = 1,000 cubic centimeters

FORMULAS

Right Rectangular Prism $V = Bh$ or $V = lwh$

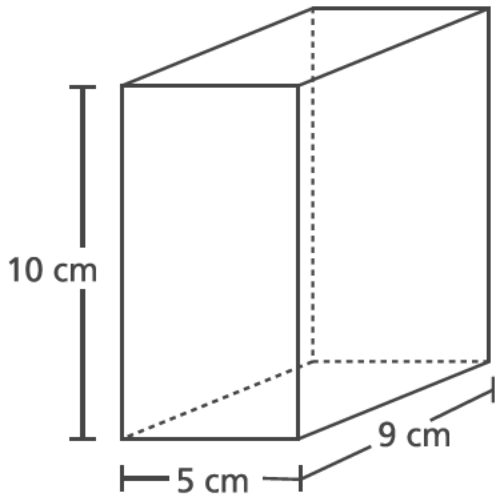
Session 1

TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice.
- You have been provided with mathematics tools (a ruler and a protractor) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.

1 A gift box is in the shape of a right rectangular prism, as pictured below.



What is the volume, in cubic centimeters, of the gift box?

A 24

B 45

C 225

D 450

2 What is the sum of $\frac{2}{10} + \frac{6}{100}$?

A $\frac{8}{10}$

B $\frac{8}{100}$

C $\frac{26}{10}$

D $\frac{26}{100}$

GO ON

3 On Saturday, Mark sold $2\frac{7}{8}$ gallons of lemonade. On the same day, Regan sold $\frac{2}{3}$ as much lemonade as Mark. How much lemonade, in gallons, did Regan sell?

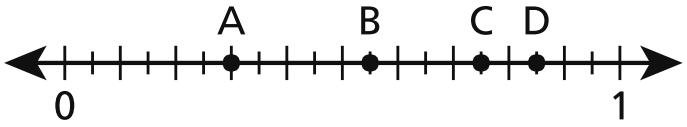
A $1\frac{5}{16}$

B $1\frac{11}{12}$

C $2\frac{7}{12}$

D $4\frac{5}{16}$

4 Which point on the number line below represents a value of 0.75?



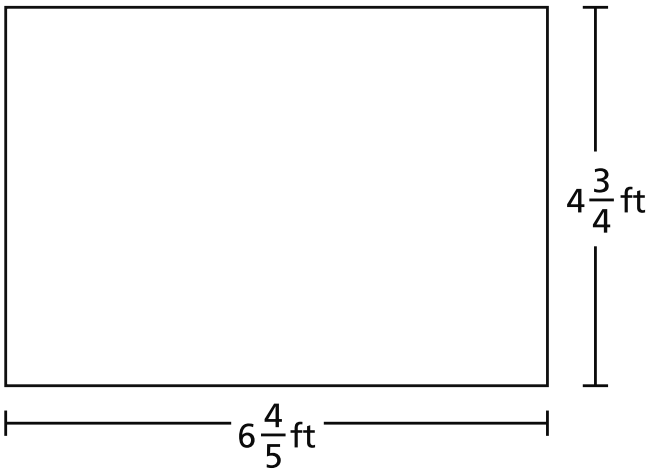
A point A

B point B

C point C

D point D

13 What is the area, in square feet, of the rectangle shown below?



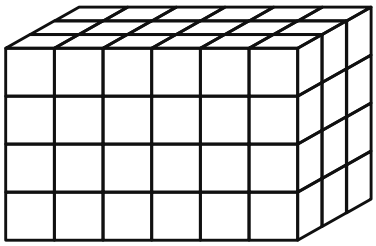
A $11\frac{11}{20}$

B $24\frac{12}{20}$

C $27\frac{4}{20}$

D $32\frac{6}{20}$

18 Which expression **cannot** be used to determine the volume of the rectangular prism pictured below?



A 12×6

B 18×4

C $6 \times 3 \times 4$

D $6 \times 4 \times 6$

19 What is 15.74 rounded to the nearest whole number?

A 10

B 15

C 16

D 20

20 Jack puts $\frac{1}{3}$ pound of birdseed into his bird feeder every time he fills it. How many times can Jack fill his bird feeder with 4 pounds of birdseed?

A $1\frac{1}{3}$

B $3\frac{2}{3}$

C 11

D 12

21 Carlos makes 1 pound of snack mix using nuts, raisins, and cereal. The list below shows how many pounds of nuts and raisins he uses.

- $\frac{1}{3}$ pound of nuts
- $\frac{2}{5}$ pound of raisins

How much cereal, in pounds, does Carlos use?

A $\frac{3}{8}$

B $\frac{5}{8}$

C $\frac{4}{15}$

D $\frac{11}{15}$

26 What is the value of the expression $\frac{1}{7} \div 5$?

A $\frac{1}{12}$

B $\frac{1}{35}$

C $\frac{5}{7}$

D $\frac{6}{7}$

27 Cole has a rectangular garden with an area of 16.02 square meters. The length of the garden is 4.5 meters. What is the width, in meters, of the garden?

A 3.56

B 11.52

C 16.12

D 20.52

28 A school raised a total of $1,648 to purchase new books. The money raised will be shared equally among 8 different classrooms. What is the total amount of money each classroom will receive?

A $206

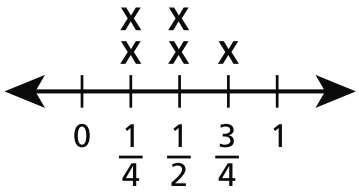
B $207

C $260

D $270

29 The line plot below shows the amount of cereal Shyanne ate in 5 days.

CEREAL EATEN



Amount (cups)

What is the total number of cups of cereal that Shyanne ate in the 5 days?

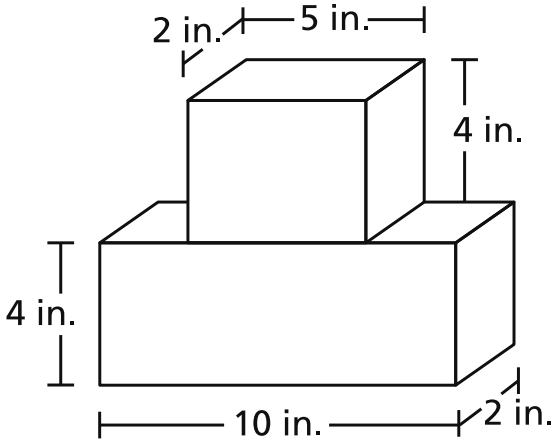
A $1\frac{1}{2}$

B $1\frac{3}{4}$

C $1\frac{4}{6}$

D $2\frac{1}{4}$

30 Lana used the two blocks pictured in the diagram to build a tower.



LANA'S TOWER

What is the total volume, in cubic inches, of the tower Lana built?

A 27

B 80

C 116

D 120

STOP

Grade 5
2019
Mathematics Test
Session 1
May 1–3, 2019

Name: _____

New York State Testing Program

2019 Mathematics Test Session 2

Grade 5

May 1–3, 2019

RELEASED QUESTIONS

Grade 5 Mathematics Reference Sheet

CONVERSIONS

1 mile = 5,280 feet
1 mile = 1,760 yards

1 pound = 16 ounces
1 ton = 2,000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 liter = 1,000 cubic centimeters

FORMULAS

Right Rectangular Prism $V = Bh$ or $V = lwh$

Session 2

TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice or writing your response.
- You have been provided with mathematics tools (a ruler and a protractor) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.
- Be sure to show your work when asked.

31 Which statement about rectangles and rhombuses is always true?

A Both figures are squares.

B Both figures are quadrilaterals.

C Both figures have four right angles.

D Both figures have four congruent sides.

32 What is the value of the expression $\frac{2}{5} + \frac{3}{7}$?

A $\frac{5}{35}$

B $\frac{6}{35}$

C $\frac{5}{12}$

D $\frac{29}{35}$

33 Which measurement is equivalent to 4,000 centimeters?

A 4 meters

B 40 meters

C 400 meters

D 40,000 meters

GO ON

34 Zaire is making granola bars. For one batch of bars, the recipe requires $1\frac{2}{3}$ cups of rolled oats, and $\frac{1}{2}$ cup raisins. What is the combined amount, in cups, of rolled oats and raisins that is used in one batch of granola bars?

A $1\frac{1}{5}$

B $1\frac{3}{5}$

C $2\frac{1}{3}$

D $2\frac{1}{6}$

35 In a science class, Paula made a mixture by adding 2.05 milliliters of hydrogen peroxide and 6.15 milliliters of water together. Equal amounts of the whole mixture were poured into 5 empty containers. How much of the mixture, in milliliters, did she pour into each container?

A 0.61

B 1.64

C 3.2

D 13.4

36 What is 482.073 expressed in word form?

A four eighty-two and seventy-three thousandths

B four hundred eighty-two thousand seventy-three

C four hundred eighty-two and seventy-three hundredths

D four hundred eighty-two and seventy-three thousandths

37 Marco bakes cookies for his class. He uses $\frac{3}{4}$ cup of butter in each batch of cookies and bakes $2\frac{1}{2}$ batches. Which equation can be used to determine the number of cups of butter Marco uses to bake cookies?

A $\frac{5}{2} \times \frac{3}{4} = 1\frac{7}{8}$

B $\frac{3}{2} \times \frac{3}{4} = 1\frac{1}{8}$

C $\frac{5}{2} \times \frac{4}{3} = 3\frac{1}{3}$

D $\frac{3}{2} \times \frac{4}{3} = 2$

38 Which expression is **not** equivalent to $\frac{2}{3} \times 4$?

A $(2 \times 4) \div 3$

B $\frac{1}{3} \times (2 \times 4)$

C $\left(4 \times \frac{1}{3}\right) \times 2$

D $\left(2 \times \frac{1}{3}\right) + \left(4 \times \frac{1}{3}\right)$

GO ON

39 Martin is using unit cubes to build a tower in the shape of a right rectangular prism. A description of the tower is listed below.

- bottom layer is made of 16 unit cubes
- bottom layer is in the shape of a square prism
- 9 more equal layers of unit cubes are added on top of the bottom layer

What is the total volume, in cubic units, of the completed tower?

Show your work.

Answer _____ cubic units

40 Joel has a goal to practice his clarinet for $4\frac{1}{2}$ hours per week. The list below shows the number of hours Joel has practiced so far this week.

- Monday: $1\frac{1}{2}$ hours
- Wednesday: $1\frac{1}{4}$ hours
- Thursday: 1 hour

How many more hours does Joel need to practice this week to meet his goal?

Show your work.

Answer _____ hours

GO ON

41 How does the value of the digit 2 in the number 32,000 compare with the value of the digit 2 in the number 26,000 ?

Explain your answer.

42 There are 5 cups of oatmeal in a container. Stella eats $\frac{1}{3}$ cup of the oatmeal every day for breakfast. In how many days will Stella finish all the oatmeal in the container?

Show your work.

Answer _____ days

GO ON

43 Olga decorates blankets with ribbon. She has 12 yards of ribbon. She uses 22 feet of the ribbon to decorate blankets. After she decorates the blankets, how many feet of ribbon remain?

Show your work.

Answer _____ feet

44 In the expression $5 \times \frac{y}{7}$, what value of y would make a product greater than 5 ?

Explain your answer.

45 Diane has pizza dough for making pizzas. She separates the dough into the three portions listed below.

- Portion A is 8.25 ounces.
- Portion B is twice as much as portion A.
- Portion C is twice as much as portion B.

What is the weight, in ounces, of portion B and the weight, in ounces, of portion C?

Show your work.

Answer Portion B _____ ounces

Portion C _____ ounces

STOP

Grade 5
2019
Mathematics Test
Session 2
May 1–3, 2019

THE STATE EDUCATION DEPARTMENT

THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

2019 Mathematics Tests Map to the Standards

Grade 5 Released Questions on EngageNY

Question	Type	Key	Points	Standard	Cluster	Multiple Choice Questions:	Constructed Response Questions:	
						Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
Session 1								
1	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.5b	Measurement and Data	0.86		
2	Multiple Choice	D	1	CCSS.Math.Content.4.NF.C.5	Number and Operations - Fractions	0.68		
3	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.6	Number and Operations - Fractions	0.39		
4	Multiple Choice	C	1	CCSS.Math.Content.4.NF.C.6	Number and Operations in Base Ten	0.69		
13	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.4b	Number and Operations - Fractions	0.35		
18	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.5a	Measurement and Data	0.61		
19	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.A.4	Number and Operations in Base Ten	0.74		
20	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.7c	Number and Operations - Fractions	0.53		
21	Multiple Choice	C	1	CCSS.Math.Content.5.NF.A.2	Number and Operations - Fractions	0.48		
26	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.7a	Number and Operations - Fractions	0.7		
27	Multiple Choice	A	1	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten	0.4		
28	Multiple Choice	A	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten	0.77		
29	Multiple Choice	D	1	CCSS.Math.Content.5.MD.B.2	Measurement and Data	0.59		
30	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.5c	Measurement and Data	0.71		
Session 2								
31	Multiple Choice	B	1	CCSS.Math.Content.5.G.B.3	Geometry	0.71		
32	Multiple Choice	D	1	CCSS.Math.Content.5.NF.A.1	Number and Operations - Fractions	0.74		
33	Multiple Choice	B	1	CCSS.Math.Content.4.MD.A.1	Measurement and Data	0.41		
34	Multiple Choice	D	1	CCSS.Math.Content.5.NF.A.1	Number and Operations - Fractions	0.74		

35	Multiple Choice	B	1	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten	0.74		
36	Multiple Choice	D	1	CCSS.Math.Content.5.NBT.A.3a	Number and Operations in Base Ten	0.67		
37	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.6	Number and Operations - Fractions	0.64		
38	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.4a	Number and Operations - Fractions	0.49		
39	Constructed Response		2	CCSS.Math.Content.5.MD.C.5c	Measurement and Data		0.78	0.39
40	Constructed Response		2	CCSS.Math.Content.5.NF.A.2	Number and Operations - Fractions		1.04	0.52
41	Constructed Response		2	CCSS.Math.Content.5.NBT.A.1	Number and Operations in Base Ten		1.05	0.52
42	Constructed Response		2	CCSS.Math.Content.5.NF.B.7c	Number and Operations - Fractions		1.02	0.51
43	Constructed Response		2	CCSS.Math.Content.5.MD.A.1	Measurement and Data		0.9	0.45
44	Constructed Response		2	CCSS.Math.Content.5.NF.B.5b	Number and Operations - Fractions		0.93	0.47
45	Constructed Response		3	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten		2.34	0.78

*This item map is intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedural and conceptual understanding.