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Our Students. Their Moment.

New York State Testing Program
Grade 4
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 4

May 1–3, 2019

RELEASED QUESTIONS

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) to use during the test. It is up to you to decide when each tool will be helpful. You should use mathematics tools whenever you think they will help you to answer the question.

1 Tatum walks her dog $\frac{2}{3}$ mile every day after school. How many miles does she walk her dog in 5 days?

A $\frac{7}{3}$

B $\frac{10}{3}$

C $\frac{2}{15}$

D $\frac{10}{15}$

2 The number of points Jaden scored in a game is less than 45, and is also a multiple of 7. How many points could Jaden have scored?

A 17

B 35

C 52

D 70

3 Which comparison is true?

A $\frac{2}{3} = \frac{8}{12}$

B $\frac{4}{9} = \frac{8}{9}$

C $\frac{3}{4} > \frac{9}{10}$

D $\frac{2}{4} > \frac{2}{3}$

GO ON

Session 1

4 There are three different sections to sit in at a baseball park. The number of people who can sit in each section is described below.

- red section seats 200 people

- blue section seats 20 fewer people than the red section

- green section seats 2 times as many people as the blue section

What is the total number of people who can sit in the baseball park?

A 260

B 380

C 640

D 740

5 Which figure is an example of a line segment?

A •————————•

C ←————————→

B

D •————————→
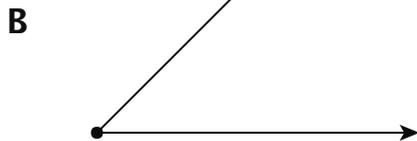
8 Which fraction model has a shaded area equivalent to $\frac{3}{12}$?

A

C

B

D
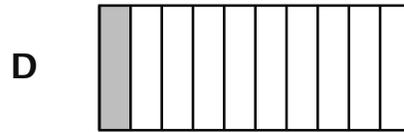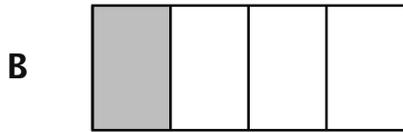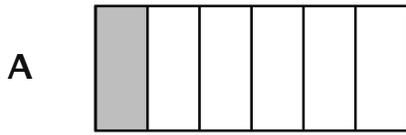
**9** The measure of angle EFG shown below is 106 degrees.
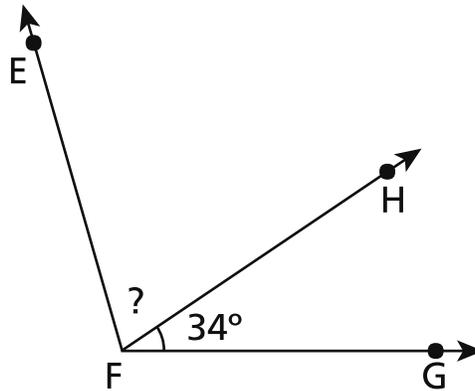
What is the measure, in degrees, of angle EFH ?

A 34

B 56

C 72

D 140

15 What is the value of the expression below?

$$2,816 \times 7$$

A 14,572

B 14,672

C 19,612

D 19,712

16 What is the quotient for the expression $2,314 \div 4$?

A 508

B 508 r2

C 578

D 578 r2

17 A teacher buys the folders listed below.

- 5 boxes of red folders with 36 folders in each box

- 6 boxes of blue folders with 32 folders in each box

Which number is **closest** to the total number of red and blue folders that the teacher buys?

A 275

B 380

C 440

D 550

GO ON

20 Which two numbers both round to 1,500 when rounded to the nearest hundred?

    A   1,399 and 1,599

    B   1,449 and 1,549

    C   1,457 and 1,547

    D   1,489 and 1,589

21 Mr. Fuller wants to put fencing around his rectangular-shaped yard. The width of the yard is 55 feet and the length is 75 feet. How many feet of fencing does Mr. Fuller need?

    A   130

    B   260

    C   3,905

    D   4,125

GO ON

27 The three models below are each shaded to represent a different fraction.

What is the sum of the fractions represented by the shaded parts of the models?

A $\dfrac{10}{18}$

B $\dfrac{8}{10}$

C $\dfrac{10}{8}$

D $\dfrac{10}{6}$

28 What is the greatest number of lines of symmetry that can be drawn on the figure shown below?
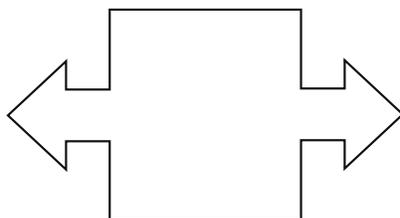
A 0

B 1

C 2

D 4

29 What is the measure, in degrees, of an angle that is equivalent to $\dfrac{1}{360}$ of a circle?

A   1

B   90

C   180

D   360

30 Which comparison statement describes the model below?

$$24$$

| 6 | 6 | 6 | 6 |
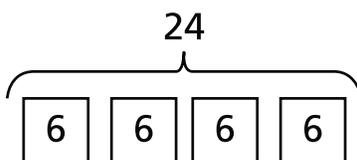
A   6 is 24 times as many as 4

B   24 is 4 times as many as 6

C   4 times as many as 24 is 6

D   6 times as many as 6 is 24

STOP

Grade 4
2019
Mathematics Test
Session 1
May 1 – 3, 2019

Name:_____

New York State Testing Program

2019 Mathematics Test Session 2

Grade 4

May 1–3, 2019

RELEASED QUESTIONS

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) to use during the test. It is up to you to decide when each tool will be helpful. You should use mathematics tools whenever you think they will help you to answer the question.

- Be sure to show your work when asked.

**31** In which model could the shaded parts represent $4 \times \dfrac{1}{3}$?

A

C

B

D
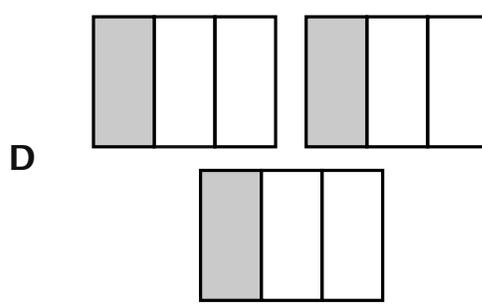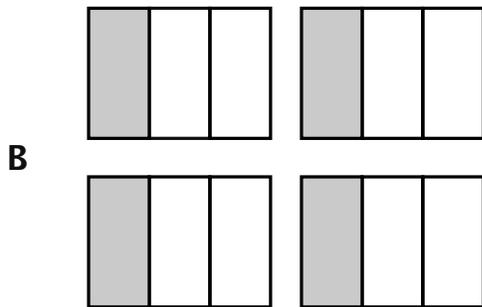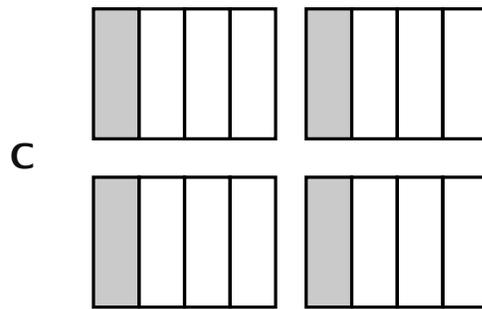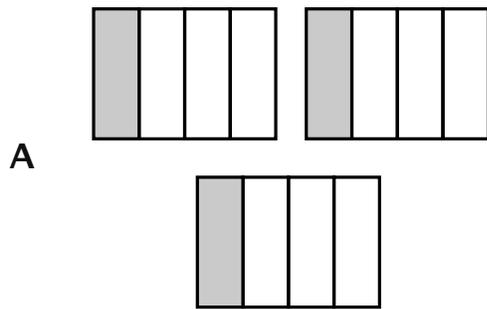
32 A truck is parked next to a tree. The height of the truck is 6 feet. The height of the tree is 3 times the height of the truck. Which equation can be used to find the height of the tree?

A $\quad 6 + 3 = \underline{\ ?\ }$

B $\quad 6 \times 3 = \underline{\ ?\ }$

C $\quad (6 \times 3) + 3 = \underline{\ ?\ }$

D $\quad (6 \times 3) + 6 = \underline{\ ?\ }$

**33** Which expression can be used to solve the equation below?

$$4{,}600 \div 5 = \underline{\ ?\ }$$

A $(46 \div 5) + (100 \div 5)$

B $(400 \div 5) - (600 \div 5)$

C $(4{,}000 \div 5) - (60 \div 5)$

D $(4{,}000 \div 5) + (600 \div 5)$

34 Which statement about an object turning 90 degrees around in a circle is true?

A It turns $\dfrac{1}{4}$ of the way around in a circle.

B It turns $\dfrac{2}{4}$ of the way around in a circle.

C It turns $\dfrac{3}{4}$ of the way around in a circle.

D It turns $\dfrac{4}{4}$ of the way around in a circle.

35 Which statement represents the number sentence below?

$$8 = 4 \times 2$$

A 4 is 8 times as many as 2

B 4 is 2 times as many as 8

C 8 is 2 times as many as 2

D 8 is 4 times as many as 2

36 What is the measure, in degrees, of the angle shown below?
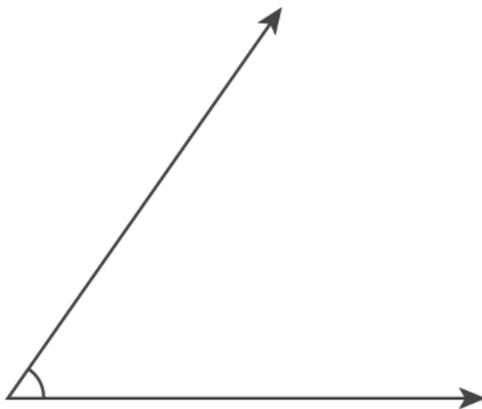
A   55

B   65

C   125

D   135

37 The model below is shaded to represent a fraction.
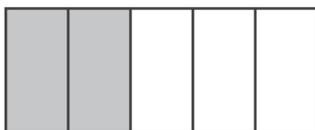
Which fraction model is shaded to represent an equivalent fraction?

A

C

B

D

GO ON
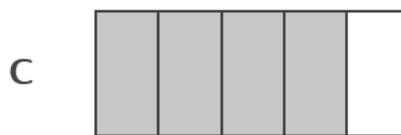
38 The picture below shows line segments of different lengths, in inches.
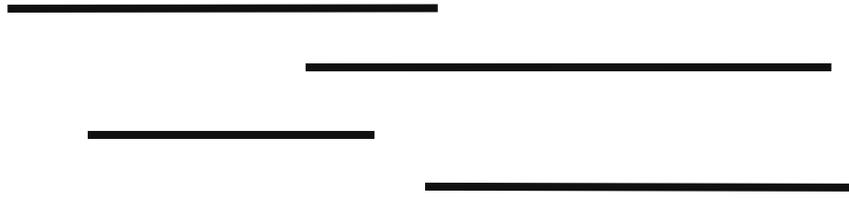
Measure each line segment. Which line plot correctly shows the lengths of the line segments?

A

LINE SEGMENTS

Length (inches)

C

LINE SEGMENTS

Length (inches)

B

LINE SEGMENTS

Length (inches)

D

LINE SEGMENTS

Length (inches)
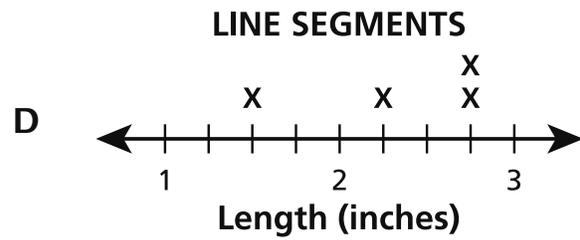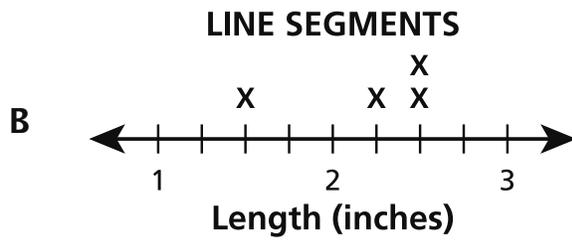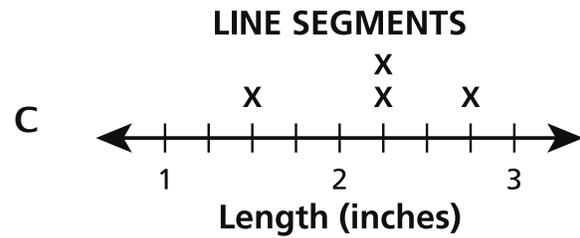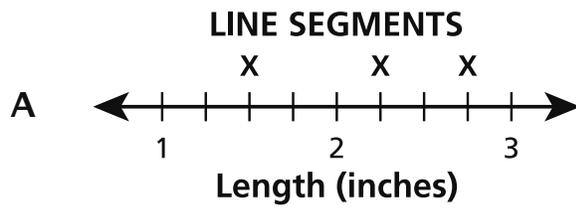
39 The shaded part of the model below represents the fraction of a candy bar that Jill ate.
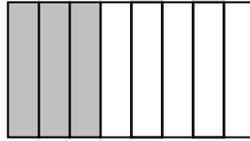
Tom has the same size candy bar. He eats 2 times the amount that Jill ate. What fraction of the candy bar does Tom eat?

Show your work.

Answer _____ of the candy bar

GO ON

Session 2

40 Use each digit shown below to create a 5-digit number with the greatest value and a 5-digit number with the least value. Each digit can only be used once in each number. Then write a number sentence using $>, <,$ or $=$ to compare the two numbers you created.

2, 9, 1, 3, 8

Show your work.

41 The diagram below shows line AB, line CD, and line EF.
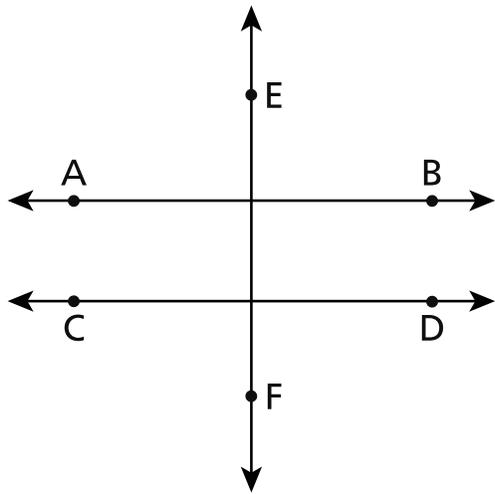
Identify **two** lines on the diagram that appear to be perpendicular to each other.

Explain how you determined your answer.

_____

_____

_____

GO ON

42 Mick and Jackie buy a large sandwich to share. They each eat $\frac{2}{5}$ of the sandwich.

How much of the sandwich is remaining?

Show your work.

Answer _____ of the sandwich

43 How does the value of the digit 3 in the number 63,297 compare to the value of the digit 3 in the number 60,325? Be sure to include what you know about place value in your answer.

Explain your answer.

_____

_____

_____

44 Ms. Peterson wants to replace all the floor tiles in her kitchen. The kitchen floor is 12 feet long and 7 feet wide. If Ms. Peterson already has 45 one-foot square tiles, how many more one-foot square tiles does she need to completely cover the kitchen floor?

Show your work.

Answer _____ more tiles

45 The height of Mountain P is 1,086 feet. The height of Mountain Q is 4 times the height of Mountain P. The area model shown below represents one way to find the height of Mountain Q.

	1,000	B	6
4	A	320	C
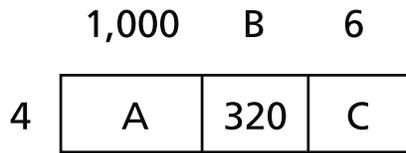
What are the missing values for A, B, and C in the area model?

Show your work.

Answer A _____ , B _____ , and C _____

What is the height, in feet, of Mountain Q ?

Show your work.

Answer _____ feet

STOP

Grade 4
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 4 Released Questions on EngageNY

Question	Type	Key	Points	Standard	Cluster	Multiple Choice Questions: Percentage of Students Who Answered Correctly (P-Value)	Constructed Response Questions: Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
Session 1								
1	Multiple Choice	B	1	CCSS.Math.Content.4.NF.B.4c	Number and Operations - Fractions	0.79		
2	Multiple Choice	B	1	CCSS.Math.Content.4.OA.B.4	Operations and Algebraic Thinking	0.84		
3	Multiple Choice	A	1	CCSS.Math.Content.4.NF.A.2	Number and Operations - Fractions	0.68		
4	Multiple Choice	D	1	CCSS.Math.Content.4.OA.A.2	Operations and Algebraic Thinking	0.55		
5	Multiple Choice	A	1	CCSS.Math.Content.4.G.A.1	Geometry	0.67		
8	Multiple Choice	B	1	CCSS.Math.Content.4.NF.A.1	Number and Operations - Fractions	0.6		
9	Multiple Choice	C	1	CCSS.Math.Content.4.MD.C.7	Measurement and Data	0.74		
15	Multiple Choice	D	1	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten	0.71		
16	Multiple Choice	D	1	CCSS.Math.Content.4.NBT.B.6	Number and Operations in Base Ten	0.7		
17	Multiple Choice	B	1	CCSS.Math.Content.4.OA.A.3	Operations and Algebraic Thinking	0.68		
20	Multiple Choice	C	1	CCSS.Math.Content.4.NBT.A.3	Number and Operations in Base Ten	0.64		
21	Multiple Choice	B	1	CCSS.Math.Content.4.MD.A.3	Measurement and Data	0.48		
27	Multiple Choice	D	1	CCSS.Math.Content.4.NF.B.3a	Number and Operations - Fractions	0.68		
28	Multiple Choice	C	1	CCSS.Math.Content.4.G.A.3	Geometry	0.59		
29	Multiple Choice	A	1	CCSS.Math.Content.4.MD.C.5a	Measurement and Data	0.41		
30	Multiple Choice	B	1	CCSS.Math.Content.4.OA.A.1	Operations and Algebraic Thinking	0.63		
Session 2								
31	Multiple Choice	B	1	CCSS.Math.Content.4.NF.B.4a	Number and Operations - Fractions	0.83		
32	Multiple Choice	B	1	CCSS.Math.Content.4.OA.A.2	Operations and Algebraic Thinking	0.92		
33	Multiple Choice	D	1	CCSS.Math.Content.4.NBT.B.6	Number and Operations in Base Ten	0.76		

34	Multiple Choice	A	1	CCSS.Math.Content.4.MD.C.5b	Measurement and Data	0.63		
35	Multiple Choice	D	1	CCSS.Math.Content.4.OA.A.1	Operations and Algebraic Thinking	0.58		
36	Multiple Choice	A	1	CCSS.Math.Content.4.MD.C.6	Measurement and Data	0.59		
37	Multiple Choice	D	1	CCSS.Math.Content.4.NF.A.1	Number and Operations - Fractions	0.74		
38	Multiple Choice	C	1	CCSS.Math.Content.3.MD.B.4	Measurement and Data	0.58		
39	Constructed Response		2	CCSS.Math.Content.4.NF.B.4b	Number and Operations - Fractions		1.46	0.73
40	Constructed Response		2	CCSS.Math.Content.4.NBT.A.2	Number and Operations in Base Ten		1.04	0.52
41	Constructed Response		2	CCSS.Math.Content.4.G.A.2	Geometry		0.97	0.49
42	Constructed Response		2	CCSS.Math.Content.4.NF.B.3d	Number and Operations - Fractions		1.22	0.61
43	Constructed Response		2	CCSS.Math.Content.4.NBT.A.1	Number and Operations in Base Ten		1.04	0.52
44	Constructed Response		2	CCSS.Math.Content.4.MD.A.3	Measurement and Data		1.13	0.57
45	Constructed Response		3	CCSS.Math.Content.4.NBT.B.5	Number and Operations in Base Ten		1.32	0.44

*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.