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New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

New York State Testing Program
Grade 5
Mathematics Test

Released Questions

2021

New York State administered the Mathematics Tests in May 2021 and is now making the questions from Session 1 of these tests available for review and use. Only Session 1 was required in 2021.

New York State Testing Program
Grades 3–8 Mathematics

Released Questions from 2021 Tests

Background

In 2013, New York State (NYS) 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 (NYSED) 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 2021 NYS Grades 3–8 English Language Arts and Mathematics test materials for review, discussion, and use.

In February 2021, with the ongoing COVID-19 pandemic still forcing restrictions on all educational and learning activities statewide, NYSED submitted two federal waiver requests related to state assessment and accountability requirements. The waiver requests addressed the unique circumstances caused by the pandemic that have resulted in many students receiving some or all of their instruction remotely.

Later that month, the United States Department of Education (USDE) informed states that it would not grant a blanket waiver for state assessments. However, the USDE agreed to uncouple state assessments from the Every Student Succeeds Act (ESSA) accountability requirements so that test results will be used solely as a measure of student learning. Additionally, it was decided that NYSED would administer only Session 1 of the Grades 3–8 ELA and Mathematics Tests for the Spring 2021 administration and that the tests would include previously administered questions.

The decision to use previously administered test questions in this extraordinary year was based on guidance from nationally recognized experts in the assessment field and was recommended in a [publication](#) from the Council of Chief State School Officers to state education departments. Reusing test questions provided the benefit of having established scale scores and stable item parameters. Using previously administered test questions also ensured that it will be possible to develop new test forms for 2022 and beyond. Although it was not the driver of the decision, the reuse of previously administered test questions provided an opportunity for cost savings during these unique circumstances where the instructional models used by schools varied throughout the State.

For 2021, the entire Session 1 booklet is being released as this is all that students were required to take. Additionally, NYSED is providing a map that details what learning standards 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 NYSED's expectations for students.

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.

New York State P–12 Learning Standards Alignment

The alignment to the New York State P–12 Learning Standards for Mathematics is intended to identify the primary analytic skills necessary to successfully answer each question. 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

Mathematics Test
Session 1

Grade 5

v202

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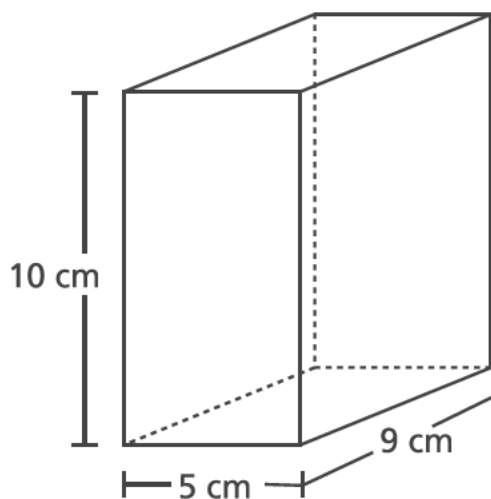
What is the volume, in cubic centimeters, of the gift box?

A   24

B   45

C   225

D   450
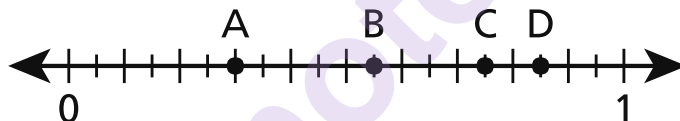
2 What is the sum of $\frac{2}{10} + \frac{6}{100}$?

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

5 Which comparison is true?

A $\quad 2.919 > 2.94$

B $\quad 0.99 < 0.569$

C $\quad 1.27 > 1.189$

D $\quad 3.861 < 3.75$

6 Betty has 3 cats and 4 dogs. She feeds each of them one scoop of food twice a day. Which expression can be used to show how many scoops Betty feeds her pets in one day?

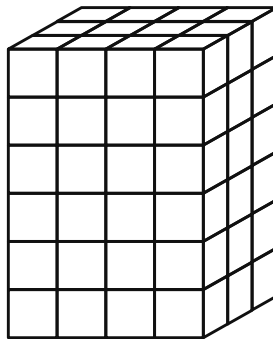A $\quad (2 \times 3) \times 4$

B $\quad (2 \times 3) + 4$

C $\quad 2 + (3 + 4)$

D $\quad 2 \times (3 + 4)$

GO ON

Session 1

7 A diagram of a rectangular prism filled with unit cubes is shown below. Each unit cube has side lengths measuring 1 foot.

What is the volume, in cubic feet, of the rectangular prism?

A   12

B   13

C   54

D   72

8 What is the value of the expression below?

$$[(3 \times 4) - 6] + 4 \times 2$$
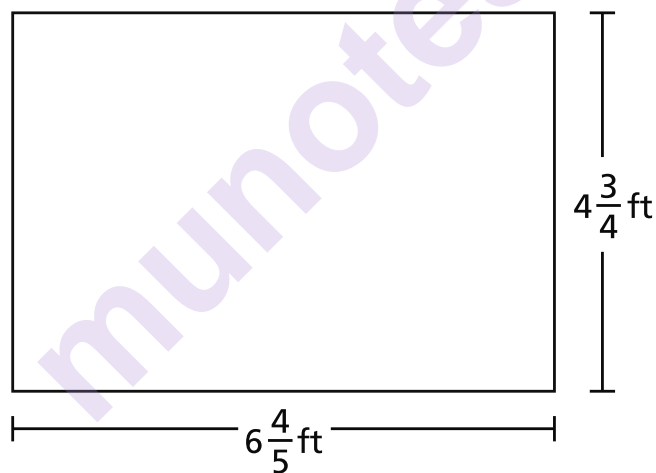
A   4

B   14

C   20

D   30

9 Ms. Reed makes salad dressing by combining oil and vinegar. She combines 8 fluid ounces of oil and 3 fluid ounces of vinegar to make one batch. Ms. Reed makes 3 batches of salad dressing. How many total cups of salad dressing does she make?

A $1\frac{3}{8}$ cups

B $2\frac{1}{16}$ cups

C $2\frac{3}{4}$ cups

D $4\frac{1}{8}$ cups

10 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 $32\frac{6}{20}$

GO ON

11 Ed hiked 3 kilometers on Saturday and swam 2 kilometers on Sunday. How many total meters did Ed hike and swim on Saturday and Sunday?

    A   50

    B   500

    C   5,000

    D   50,000

12 Which expression can be used to find the value of the expression shown below?

$$1,284 \div 4$$

    A $(1,200 \div 4) \times (84 \div 4)$

    B $(1,200 \div 4) \div (84 \div 4)$

    C $(1,200 \div 4) + (84 \div 4)$

    D $(1,200 \div 4) - (84 \div 4)$

13 Which expression **cannot** be used to determine the volume of the rectangular prism pictured below?
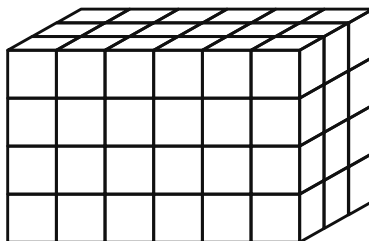
- **A** 12×6
- **B** 18×4
- **C** $6 \times 3 \times 4$
- **D** $6 \times 4 \times 6$

14 What is 15.74 rounded to the nearest whole number?

- **A** 10
- **B** 15
- **C** 16
- **D** 20

GO ON

15 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

16 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 $\frac{11}{15}$

GO ON

17 Tara lives $\frac{3}{4}$ mile from the park. Nikhil lives $6\frac{2}{3}$ times as far as Tara from the park. How far, in miles, does Nikhil live from the park?

    A   2

    B   5

    C $5\frac{1}{6}$

    D $8\frac{8}{9}$

18 Which statement describes the product of the expression $5 \times \frac{1}{2}$?

    A   It is less than $\frac{1}{2}$.

    B   It is greater than 5.

    C   It is between 5 and 6.

    D   It is between $\frac{1}{2}$ and 5.

GO ON

19 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 $\frac{6}{7}$

20 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

21 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

GO ON

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

CEREAL EATEN

X   X
X   X   X

0   $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ 1

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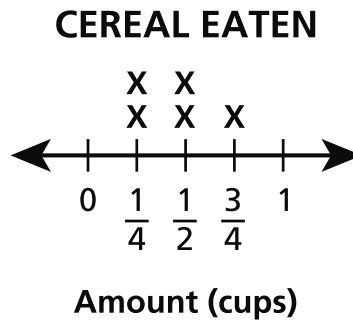
What is the total number of cups of cereal that Shyanne ate in the 5 days?

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

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

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

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

23 Lana used the two blocks pictured in the diagram to build a tower.
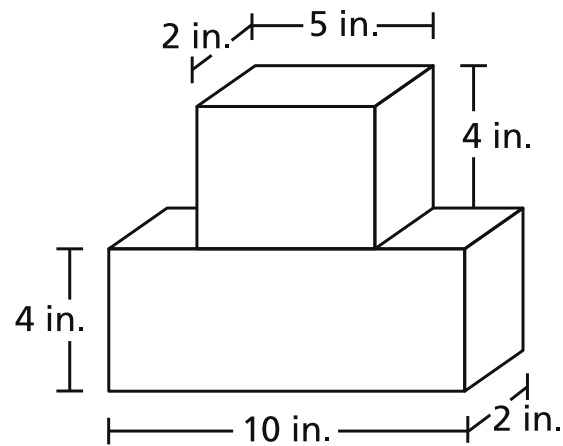
LANA'S TOWER

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

A 27

B 80

C 116

D 120

Grade 5
Mathematics Test
Session 1
v202

THE STATE EDUCATION DEPARTMENT
THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234
2021 Mathematics Tests Map to the Standards
Grade 5 Released Questions

Question	Type	Key	Points	Standard	Cluster	Subscore	Secondary Standard(s)
Session 1							
1	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.5b	Measurement and Data	Measurement and Data	
2	Multiple Choice	D	1	CCSS.Math.Content.4.NF.C.5	Number and Operations - Fractions	Number and Operations - Fractions	
3	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.6	Number and Operations - Fractions	Number and Operations - Fractions	
4	Multiple Choice	C	1	CCSS.Math.Content.4.NF.C.6	Number and Operations in Base Ten	Number and Operations in Base Ten	
5	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.A.3b	Number and Operations in Base Ten	Number and Operations in Base Ten	
6	Multiple Choice	D	1	CCSS.Math.Content.5.OA.A.2	Operations and Algebraic Thinking		
7	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.4	Measurement and Data	Measurement and Data	
8	Multiple Choice	B	1	CCSS.Math.Content.5.OA.A.1	Operations and Algebraic Thinking		
9	Multiple Choice	D	1	CCSS.Math.Content.5.MD.A.1	Measurement and Data	Measurement and Data	
10	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.4b	Number and Operations - Fractions	Number and Operations - Fractions	
11	Multiple Choice	C	1	CCSS.Math.Content.4.MD.A.2	Measurement and Data	Measurement and Data	
12	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten	Number and Operations in Base Ten	
13	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.5a	Measurement and Data	Measurement and Data	
14	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.A.4	Number and Operations in Base Ten	Number and Operations in Base Ten	
15	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.7c	Number and Operations - Fractions	Number and Operations - Fractions	
16	Multiple Choice	C	1	CCSS.Math.Content.5.NF.A.2	Number and Operations - Fractions	Number and Operations - Fractions	
17	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.6	Number and Operations - Fractions	Number and Operations - Fractions	
18	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.5a	Number and Operations - Fractions	Number and Operations - Fractions	
19	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.7a	Number and Operations - Fractions	Number and Operations - Fractions	
20	Multiple Choice	A	1	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten	Number and Operations in Base Ten	
21	Multiple Choice	A	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten	Number and Operations in Base Ten	
22	Multiple Choice	D	1	CCSS.Math.Content.5.MD.B.2	Measurement and Data	Measurement and Data	
23	Multiple Choice	D	1	CCSS.Math.Content.5.MD.C.5c	Measurement and Data	Measurement and Data	

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.