New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

New York State Testing Program
Grade 3
Mathematics Test

Released Questions

2022

New York State administered the Mathematics Tests in May 2022 and is now making approximiately 75% of the questions from these tests available for review and use.

New York State Testing Program
Grades 3–8 Mathematics

Released Questions from 2022 Exams

Background

As in past years, SED is releasing large portions of the 2022 NYS Grades 3–8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2022, included in these released materials are at least 75 percent of the test questions that appeared on the 2022 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 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 http://www.nysed.gov/state-assessment/grades-3-8-ela-and-math-test-manuals.

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 it is possible to develop future tests, some content must remain secure. 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.

Name: _____

New York State Testing Program

2022 Mathematics Test Session 1

Grade 3

April 26–28, 2022

RELEASED QUESTIONS

Developed and published under contract with the New York State Education Department by Questar Assessment Inc., 5550 Upper 147th Street West, Minneapolis, MN 55124.

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 a ruler to use during the test. Use the ruler whenever you think it will help you to answer the question.

1 Mr. Green buys 4 packages of cups. Each package has 8 cups. Which expression can be used to find the number of cups that Mr. Green buys?

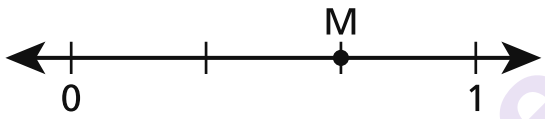
A $8 \div 4$

B $8 - 4$

C $8 + 4$

D 8×4

2 Which fraction is represented by point M on the number line shown below?



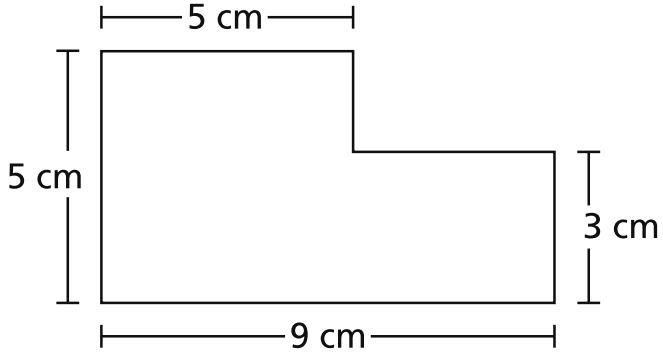
A $\frac{3}{4}$

B $\frac{2}{4}$

C $\frac{3}{2}$

D $\frac{2}{3}$

3 A student made the shape shown below by combining two rectangles.



What is the area, in square centimeters, of the shape the student made?

A 22

B 37

C 45

D 52

4 A worker has 3 bags of pebbles to use in a garden. The mass of each bag is 9 kilograms. What is the total mass, in kilograms, of all of the bags of pebbles?

A 3

B 6

C 12

D 27

9 Which expression is equivalent to 5×7 ?

A $5 + (4 + 3)$

B $5 \times (4 \times 3)$

C $(5 + 3) \times (5 + 4)$

D $(5 \times 3) + (5 \times 4)$

10 Zach earns the same amount of money each week doing yard work. If he earns $36 at the end of 4 weeks, how much money does Zach earn each week?

A $9

B $32

C $40

D $144

11 What is the value of 7×70?

A 49

B 77

C 490

D 770

12 A student draws a rectangle on a sheet of paper. He labels two of the sides 1 unit and the other two sides 2 units. What is the area of the rectangle?

A 2 square units

B 4 units

C 4 square units

D 6 units

15 What number makes the equation below true?

$48 \div \underline{\quad ? \quad} = 8$

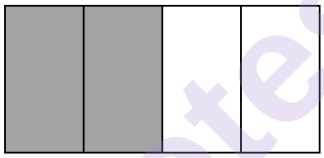
A 6

B 7

C 40

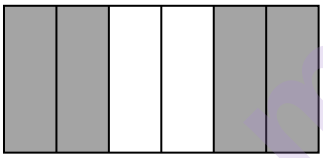
D 56

16 The shaded part of the model below represents a fraction.

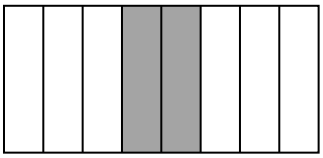


Which figure is shaded to represent a fraction equivalent to the model shown?

A

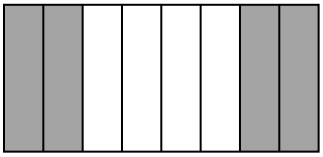


C



B

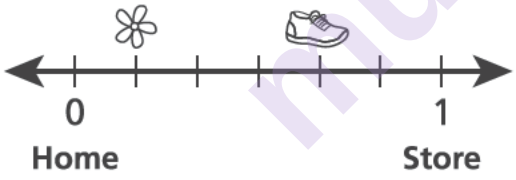
D



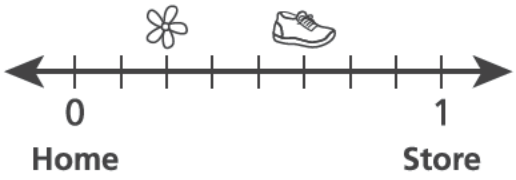
22 Greg walked 1 mile from his home to a store. After walking $\frac{2}{6}$ mile, he stopped to smell a flower. After walking another $\frac{3}{6}$ mile, he stopped to tie his shoe.

Which number line correctly shows the locations where Greg smelled the flower and where he tied his shoe?

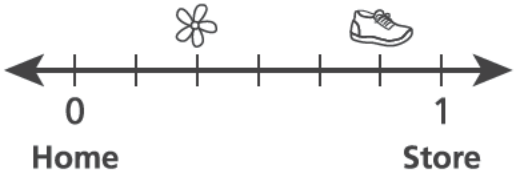
A



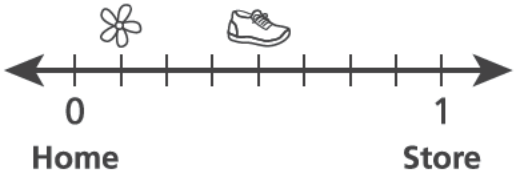
C



B



D



Grade 3
2022
Mathematics Test
Session 1
April 26–28, 2022

Name: _____

New York State Testing Program

2022 Mathematics Test Session 2

Grade 3

April 26–28, 2022

RELEASED QUESTIONS

Developed and published under contract with the New York State Education Department by Questar Assessment Inc., 5550 Upper 147th Street West, Minneapolis, MN 55124.

Session 2

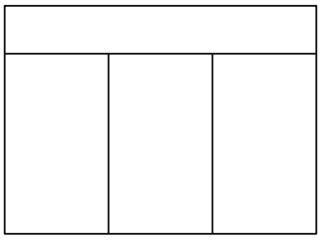
TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

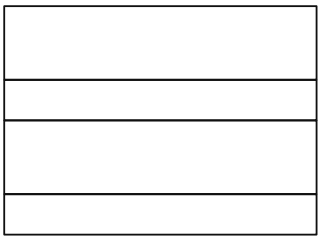
- Read each question carefully and think about the answer before making your choice or writing your response.
- You have been provided with a ruler to use during the test. Use the ruler whenever you think it will help you to answer the question.
- Be sure to show your work when asked.

26 Which rectangle is divided into 4 equal parts?

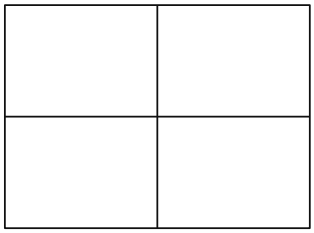
A



C



B



D

27 A pet store has 4 fish tanks of the same size. A worker puts 10 liters of water in each fish tank. What is the total number of liters of water the worker puts in all of the fish tanks?

A 4

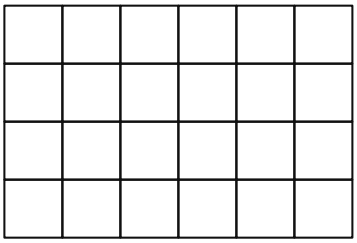
B 6

C 14

D 40

28 Which array represents 3×6 ?

A



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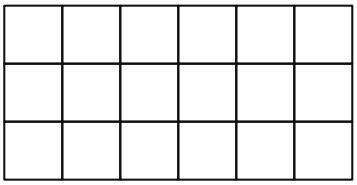
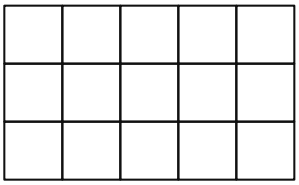
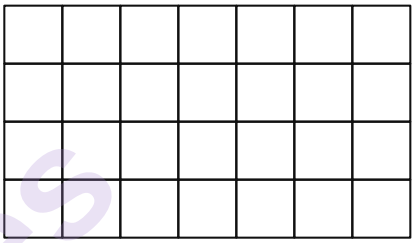


B



D



29 Which number pattern uses the rule add 3 ?

A 2, 6, 18, 48, . . .

B 3, 7, 11, 15, . . .

C 3, 9, 27, 54, . . .

D 4, 7, 10, 13, . . .

30 Which fraction is less than $\frac{1}{4}$?

A $\frac{2}{4}$

B $\frac{4}{4}$

C $\frac{1}{3}$

D $\frac{1}{6}$

31 Mica has 35 gumballs. He gives all of them to 7 friends. Each friend gets the same number of gumballs. Which expression can be used to find the number of gumballs Mica gives each friend?

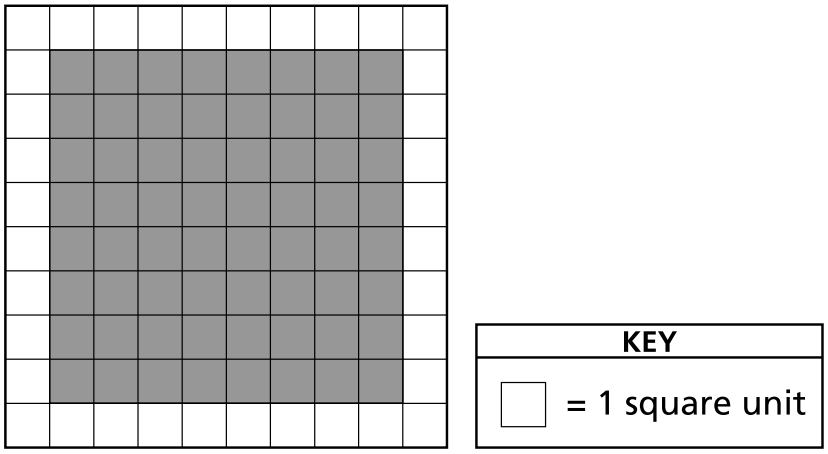
A $35 - 7$

B $35 \div 7$

C $35 + 7$

D 35×7

32 The figure below is made up of unit squares. Some of the unit squares are shaded and some of the unit squares are unshaded.



Which process describes one way to find the area, in square units, of the shaded part of the figure?

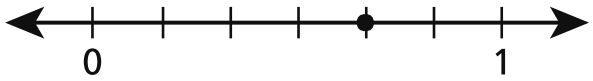
A count all of the unit squares in the entire figure

B count only the unit squares that are shaded in the figure

C add up all of the side lengths in the entire figure

D add up only the side lengths of the shaded part in the figure

33 The number line below shows a point.



Which equivalent fraction is represented by the location of the point on the number line?

A $\frac{1}{3}$

B $\frac{2}{3}$

C $\frac{2}{4}$

D $\frac{3}{4}$

34 Three classes are on a field trip at the zoo. The number of students in each class is listed below.

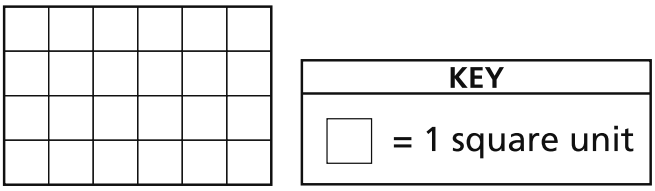
- Class A has 24 students.
- Class B has 23 students.
- Class C has 25 students.

At the zoo, all the students are placed into 8 equal groups. How many students are in each group?

Show your work.

Answer _____ students

35 A figure is shown below.



One more row of 6 unit squares is added to the figure. What is the total area of the new figure after the unit squares are added?

Show your work.

Answer _____ square units

GO ON

36 The manager at a movie theater needs to order 267 new seats. If the seats are sold only in groups of 10, what is the **least** number of seats that the manager should order?

Explain how you know your answer is correct.

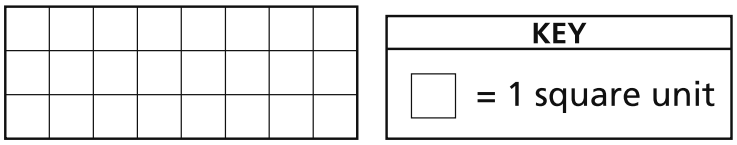
37 Sam needs to solve the problem shown below.

$$\underline{\ ?\ } \times 7 = 63$$

He uses the equation $63 \div 7 = \underline{\ ?\ }$ to find the unknown number. Will this process help Sam solve the problem?

Explain how you know your answer is correct.

38 The figure shown below is made up of unit squares.



Write and solve one addition equation **and** one multiplication equation that can be used to find the area of the figure.

Show your work.

39 Write a fraction that has a value greater than $\frac{3}{8}$ using 3 as the numerator. Be sure to include what you know about fractions in your answer.

Explain how you know your answer is correct.

40 Selena is training for a race. Last week, she ran 4 miles each day on 3 different days. Use the symbol X to make an array that represents the total number of miles Selena ran last week.

Show your work.

This week, Selena plans to run a total of 20 miles. If she runs 4 miles each day, how many days will she need to run this week?

Show your work.

Answer _____ days

STOP

Grade 3
2022
Mathematics Test
Session 2
April 26–28, 2022

THE STATE EDUCATION DEPARTMENT

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

2022 Mathematics Tests Map to the Standards

Grade 3 Released Questions

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.3.OA.A.1	Operations and Algebraic Thinking	0.78		
2	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.2b	Number and Operations - Fractions	0.62		
3	Multiple Choice	B	1	CCSS.Math.Content.3.MD.C.7d	Measurement and Data	0.35		
4	Multiple Choice	D	1	CCSS.Math.Content.3.MD.A.2	Measurement and Data	0.79		
9	Multiple Choice	D	1	CCSS.Math.Content.3.OA.B.5	Operations and Algebraic Thinking	0.63		
10	Multiple Choice	A	1	CCSS.Math.Content.3.OA.A.3	Operations and Algebraic Thinking	0.63		
11	Multiple Choice	C	1	CCSS.Math.Content.3.NBT.A.3	Number and Operations in Base Ten	0.68		
12	Multiple Choice	A	1	CCSS.Math.Content.3.MD.C.5b	Measurement and Data	0.4		
15	Multiple Choice	A	1	CCSS.Math.Content.3.OA.A.4	Operations and Algebraic Thinking	0.75		
16	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.3b	Number and Operations - Fractions	0.41		
22	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.2a	Number and Operations - Fractions	0.51		
Session 2								
26	Multiple Choice	B	1	CCSS.Math.Content.3.G.A.2	Geometry	0.96		
27	Multiple Choice	D	1	CCSS.Math.Content.3.MD.A.2	Measurement and Data	0.82		

28	Multiple Choice	C	1	CCSS.Math.Content.3.OA.A.1	Operations and Algebraic Thinking	0.93		
29	Multiple Choice	D	1	CCSS.Math.Content.3.OA.D.9	Operations and Algebraic Thinking	0.57		
30	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.3d	Number and Operations - Fractions	0.45		
31	Multiple Choice	B	1	CCSS.Math.Content.3.OA.A.2	Operations and Algebraic Thinking	0.75		
32	Multiple Choice	B	1	CCSS.Math.Content.3.MD.C.5b	Measurement and Data	0.5		
33	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.3a	Number and Operations - Fractions	0.36		
34	Constructed Response		2	CCSS.Math.Content.3.OA.D.8	Operations and Algebraic Thinking		1.09	0.55
35	Constructed Response		2	CCSS.Math.Content.3.MD.C.6	Measurement and Data		1.2	0.6
36	Constructed Response		2	CCSS.Math.Content.3.NBT.A.1	Number and Operations in Base Ten		0.45	0.22
37	Constructed Response		2	CCSS.Math.Content.3.OA.B.6	Operations and Algebraic Thinking		0.88	0.44
38	Constructed Response		2	CCSS.Math.Content.3.MD.C.7a	Measurement and Data		1.18	0.59
39	Constructed Response		2	CCSS.Math.Content.3.NF.A.3d	Number and Operations - Fractions		0.8	0.4
40	Constructed Response		3	CCSS.Math.Content.3.OA.A.3	Operations and Algebraic Thinking		1.64	0.55

*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.