New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

New York State Testing Program
Grade 3
Mathematics Test

Released Questions

2023

New York State administered the Mathematics Tests in May 2023
and is 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 2023 Exams

Background

As in past years, SED is releasing large portions of the 2023 NYS Grades 3–8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2023, included in these released materials are at least 75 percent of the test questions that appeared on the 2023 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 Next Generation 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.

One-Credit Constructed-Response Questions

One-credit constructed-response questions require students to complete a task and provide only their final answer. These one-credit questions will often require multiple steps, assessing procedural skills, as well as conceptual understanding and application. While students may show how they arrived at their final answer, only the final answer will be scored.

Two-Credit Constructed-Response Questions

Two-credit constructed-response questions require students to complete tasks and show their work. These two-credit 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.

Three-Credit Constructed-Response Questions

Three-credit constructed-response questions ask students to show their work in completing two or more tasks or a more extensive problem. These three-credit response questions allow students to show their understanding of mathematical procedures, conceptual understanding, and application. Three-credit response questions may also assess student reasoning and the ability to critique the arguments of others. The scoring rubric for all 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 Next Generation Learning Standards Alignment

The alignment(s) to the New York State P–12 Next Generation 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-credit and three-credit 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 Next Generation 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

2023 Mathematics Test Session 1

Grade 3

May 2–4, 2023

RELEASED QUESTIONS

Developed and published under contract with the New York State Education Department by Questar Assessment Inc., 14720 Energy Way, Apple Valley, 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 What factor makes the equation below true?

$8 \times \underline{\quad ? \quad} = 72$

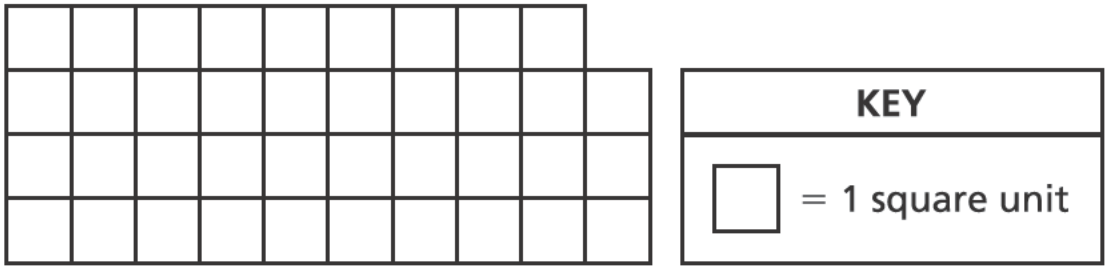
A 6

B 7

C 8

D 9

2 The figure shown below is made of unit squares.



What is the area, in square units, of the figure?

A 23

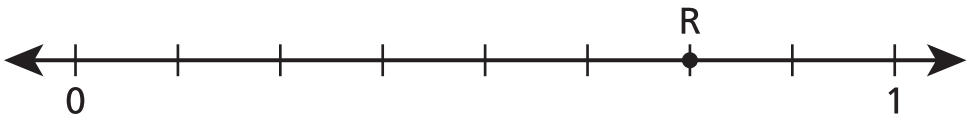
B 26

C 32

D 39

GO ON

5 Point R is shown on the number line below.



Which two fractions are equivalent to the value represented by point R ?

A $\frac{1}{4}$ and $\frac{2}{8}$

B $\frac{2}{4}$ and $\frac{6}{8}$

C $\frac{2}{4}$ and $\frac{4}{8}$

D $\frac{3}{4}$ and $\frac{6}{8}$

6 Madeline has exactly 7 coins in a bag. Each coin has a mass of 5 grams. What is the total mass, in grams, of all the coins in Madeline's bag?

A 2

B 12

C 35

D 40

GO ON

15 A rule was used to create the number pattern shown below.

__?__, 9, __?__, 21, 27

What two numbers are missing from the pattern?

A 3 and 12

B 3 and 15

C 6 and 12

D 6 and 15

16 Which fraction is equivalent to $\frac{4}{4}$?

A $\frac{2}{1}$

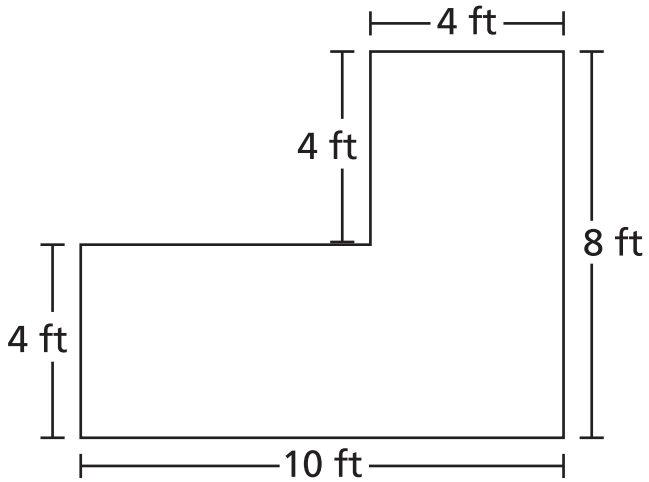
B $\frac{2}{2}$

C $\frac{4}{1}$

D $\frac{4}{2}$

GO ON

18 The shape shown below was created by combining two rectangles.



What is the area, in square feet, of the shape?

A 36

B 40

C 56

D 80

19 Which expression is equivalent to $4 \times (3 \times 2)$?

A $2 + (3 + 4)$

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

C $2 \times (4 + 3)$

D $3 + (2 \times 4)$

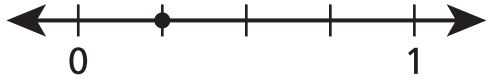
GO ON

20 Which number line shows a point located at $\frac{1}{4}$?

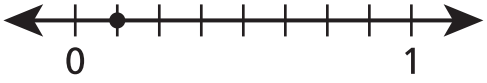
A

C

B



D



23 How many unit squares are needed to find the area of a rectangle that is 48 square units?

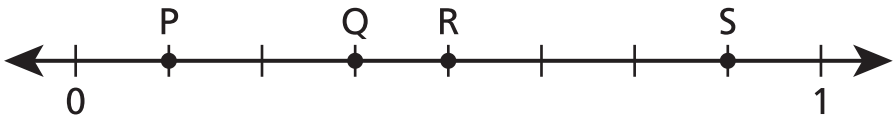
A 6

B 8

C 24

D 48

24 Which point on the number line shown below represents the fraction $\frac{4}{8}$?



A point P

B point Q

C point R

D point S

STOP

Grade 3
2023
Mathematics Test
Session 1
May 2–4, 2023

Name: _____

New York State Testing Program

2023 Mathematics Test Session 2

Grade 3

May 2–4, 2023

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 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 A student has 27 cupcakes in a box. There are 10 cupcakes with chocolate frosting and 11 cupcakes with vanilla frosting. The remaining cupcakes, *s*, have strawberry frosting. What is the value of *s* ?

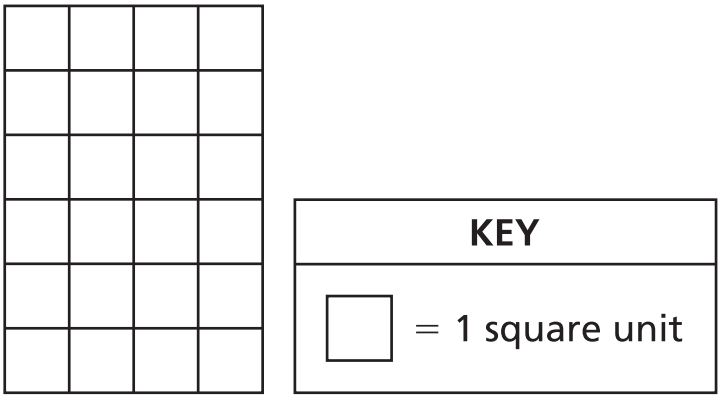
A 6

B 8

C 17

D 21

27 The area of the rectangle shown below can be found by using unit squares.



What is the area, in square units, of the rectangle?

A 10

B 18

C 20

D 24

GO ON

28 Mr. Juarez buys 5 packs of notebooks. Each pack has 6 notebooks. He gives an equal number of notebooks to each of his 3 children. How many notebooks does each child get?

A 8

B 10

C 11

D 14

29 Which fraction is equivalent to $\frac{2}{8}$?

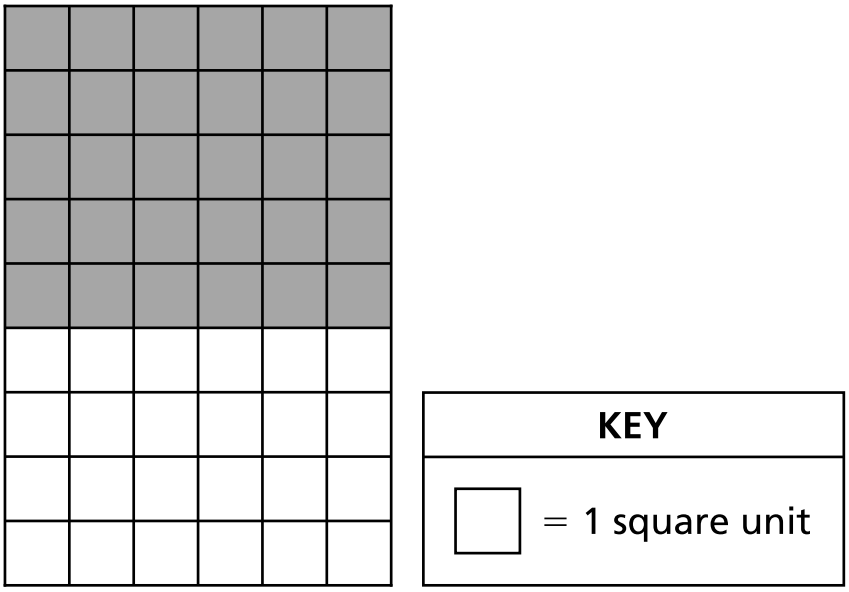
A $\frac{1}{4}$

B $\frac{1}{6}$

C $\frac{2}{4}$

D $\frac{2}{6}$

30 A shaded array and an unshaded array are combined to create the picture shown below.



Which expression can be used to find the total area, in square units, of the entire picture?

A $(5 \times 6) + (4 \times 6)$

B $6 + 5 + 4$

C $(5 \times 6) \times (4 \times 6)$

D $6 \times 5 \times 4$

GO ON

31 **This question is worth 1 credit.**

How many groups of 9 are in 72 ?

Answer _____

32 **This question is worth 1 credit.**

A circle is cut into 8 equal-sized parts. What fraction of the circle is each part?

Answer _____ of the circle

GO ON

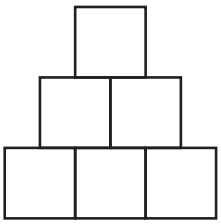
33 **This question is worth 1 credit.**

A square has side lengths of 3 feet. What is the area, in square feet, of the square?

Answer _____ square feet

34 **This question is worth 2 credits.**

The figure shown below is made up of equal parts.



What fraction of the entire figure is each part?

Explain how you know your answer is correct.

35 **This question is worth 2 credits.**

The beginning of a number pattern is shown below.

6, 10, 14, 18, . . .

The pattern continues. Is the 10th number in the pattern an even number or an odd number? Be sure to include the rule used for the pattern in your answer.

Explain how you know your answer is correct.

36 **This question is worth 2 credits.**

John starts reading a book at 5:20 p.m. He reads for 45 minutes and then plays a video game for 30 minutes. At what time does John stop playing the video game?

Show your work.

Answer _____ p.m.

GO ON

37 **This question is worth 2 credits.**

Four digits are listed below.

2	8	5	3

Use each digit shown to write a four-digit number with the digit 3 in the hundreds place. Then use what you know about place value to identify the place value of each digit in the number you wrote.

Explain how you know your answer is correct.

38 **This question is worth 3 credits.**

Sandra ate $\frac{2}{6}$ of a pizza and George ate $\frac{3}{6}$ of the same pizza. Sandra says she ate more of the pizza than George. George says he ate more of the pizza than Sandra. Who is correct? Be sure to include a correct comparison statement using $>$, $<$, or $=$ and what you know about fractions or parts of a whole in your answer.

Explain your answer.

STOP

Grade 3
2023
Mathematics Test
Session 2
May 2–4, 2023

THE STATE EDUCATION DEPARTMENT

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

2023 Mathematics Tests Map to the Standards

Grade 3 Released Questions

Question	Type	Key	Points	Standard	Cluster	Subscore	Secondary Standard(s)	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	NGLS.Math.Content.NY-3.OA.4	Operations and Algebraic Thinking	Operations and Algebraic Thinking		0.83		
2	Multiple Choice	D	1	NGLS.Math.Content.NY-3.MD.6	Measurement and Data	Measurement and Data		0.88		
5	Multiple Choice	D	1	NGLS.Math.Content.NY-3.NF.3a	Number and Operations - Fractions	Number and Operations - Fractions	NGLS.Math.Content.NY-3.NF.2b	0.53		
6	Multiple Choice	C	1	NGLS.Math.Content.NY-3.MD.2b	Measurement and Data	Measurement and Data		0.83		
15	Multiple Choice	B	1	NGLS.Math.Content.NY-3.OA.9	Operations and Algebraic Thinking	Operations and Algebraic Thinking		0.38		
16	Multiple Choice	B	1	NGLS.Math.Content.NY-3.NF.3c	Number and Operations - Fractions	Number and Operations - Fractions	NGLS.Math.Content.NY-3.NF.3b	0.71		
18	Multiple Choice	C	1	NGLS.Math.Content.NY-3.MD.7d	Measurement and Data	Measurement and Data		0.48		
19	Multiple Choice	B	1	NGLS.Math.Content.NY-3.OA.5	Operations and Algebraic Thinking	Operations and Algebraic Thinking		0.77		
20	Multiple Choice	B	1	NGLS.Math.Content.NY-3.NF.2a	Number and Operations - Fractions	Number and Operations - Fractions		0.75		
23	Multiple Choice	D	1	NGLS.Math.Content.NY-3.MD.5a	Measurement and Data	Measurement and Data	NGLS.Math.Content.NY-3.MD.5b	0.51		
24	Multiple Choice	C	1	NGLS.Math.Content.NY-3.NF.2b	Number and Operations - Fractions	Number and Operations - Fractions		0.78		
Session 2										
26	Multiple Choice	A	1	NGLS.Math.Content.NY-3.OA.8a	Operations and Algebraic Thinking	Operations and Algebraic Thinking		0.71		
27	Multiple Choice	D	1	NGLS.Math.Content.NY-3.MD.5b	Measurement and Data	Measurement and Data	NGLS.Math.Content.NY-3.MD.7a	0.92		
28	Multiple Choice	B	1	NGLS.Math.Content.NY-3.OA.3	Operations and Algebraic Thinking	Operations and Algebraic Thinking		0.63		
29	Multiple Choice	A	1	NGLS.Math.Content.NY-3.NF.3b	Number and Operations - Fractions	Number and Operations - Fractions		0.54		
30	Multiple Choice	A	1	NGLS.Math.Content.NY-3.MD.7c	Measurement and Data	Measurement and Data		0.73		
31	Constructed Response		1	NGLS.Math.Content.NY-3.OA.2	Operations and Algebraic Thinking	Operations and Algebraic Thinking			0.74	0.74
32	Constructed Response		1	NGLS.Math.Content.NY-3.G.2	Geometry				0.63	0.63
33	Constructed Response		1	NGLS.Math.Content.NY-3.MD.7b	Measurement and Data	Measurement and Data	NGLS.Math.Content.NY-3.MD.5a		0.42	0.42
34	Constructed Response		2	NGLS.Math.Content.NY-3.G.2	Geometry				0.91	0.46
35	Constructed Response		2	NGLS.Math.Content.NY-3.OA.9	Operations and Algebraic Thinking	Operations and Algebraic Thinking			0.89	0.44
36	Constructed Response		2	NGLS.Math.Content.NY-3.MD.1	Measurement and Data	Measurement and Data			1.17	0.59
37	Constructed Response		2	NGLS.Math.Content.NY-3.NBT.4a	Number and Operations in Base Ten				0.87	0.43
38	Constructed Response		3	NGLS.Math.Content.NY-3.NF.3d	Number and Operations - Fractions	Number and Operations - Fractions			1.47	0.49

*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.