



New York State
EDUCATION DEPARTMENT
Knowledge > Skill > Opportunity

New York State Testing Program
Grade 4
Mathematics Test

Released Questions

2023

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

姓名: _____



Chinese (Simplified) Edition

Grade 4 2023

Mathematics Test

Session 1

May 2–4, 2023

纽约州测试计划 数学测试 第1部分

4 年级

2023年5月2–4日

RELEASED QUESTIONS

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第1部分



参加本次测试的提示

以下是一些建议,可以帮助你做到最好:

- 仔细阅读每一道题目,在做出选择前思考答案。
- 已向你提供了数学工具(一把尺子和一个量角器)供你在测试中使用。由你决定各工具将在何时有用。你应当在认为数学工具对你答题有帮助时使用它们。

1 哪个值等于 $700,000 + 5,000 + 200 + 10 + 9$?

A 705,209

B 705,219

C 750,209

D 750,219

2 珍在跑道上跑了 8 圈。卡罗尔跑的圈数是珍的 2 倍。哪个方程式可用于确定卡罗尔跑的圈数?

A $8 \div 2 = \underline{\quad ? \quad}$

B $8 - 2 = \underline{\quad ? \quad}$

C $8 + 2 = \underline{\quad ? \quad}$

D $8 \times 2 = \underline{\quad ? \quad}$

继续

5 432 和 6 的乘积是多少？

A 2,482

B 2,492

C 2,582

D 2,592

6 关于锐角三角形，哪个陈述是正确的？

A 它有一个正好是 90 度的角。

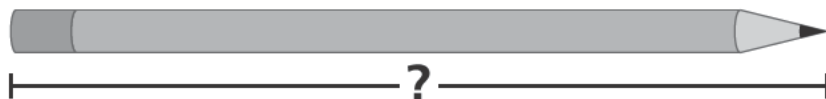
B 它有一个大于 90 度的角。

C 它有若干个均小于 90 度的角。

D 它有若干个均大于 90 度的角。

继续

- 9 以下显示了一支铅笔。



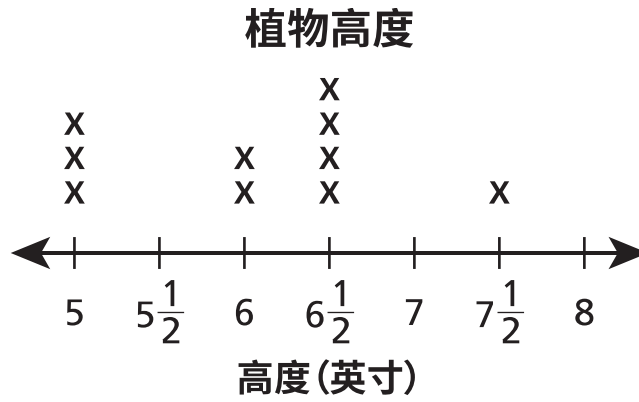
铅笔的长度是多少英寸？

- A $4\frac{1}{4}$
- B $4\frac{1}{2}$
- C $5\frac{1}{4}$
- D $5\frac{1}{2}$
- 10 哪个带分数等于 $\frac{13}{3}$ ？

- A $3\frac{1}{3}$
- B $3\frac{2}{3}$
- C $4\frac{1}{3}$
- D $4\frac{2}{3}$

13

下面所示的线图代表了十种不同植物的高度。



最高的植物和最矮的植物之一之间的高度差是多少英寸？

- A $2\frac{1}{2}$
- B 3
- C 4
- D $6\frac{1}{2}$

继续

17 下面显示的数字模式的规律是什么？

64, 32, 16, 8, ...

- A 减去 8
- B 除以 2
- C 除以 8
- D 乘以 2

19 以下所示的方程式中缺少的值是什么？

$$\underline{\quad ? \quad} \times \frac{3}{6} = 15 \times \frac{1}{6}$$

- A 3
- B 5
- C 12
- D 18

继续

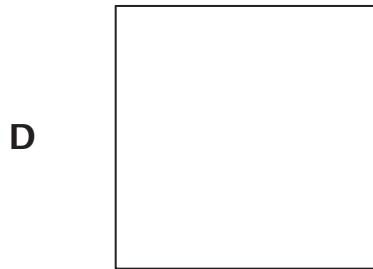
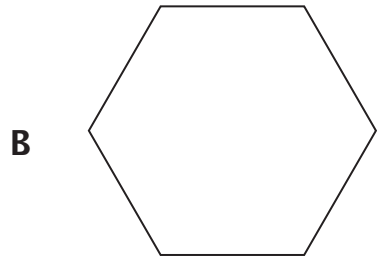
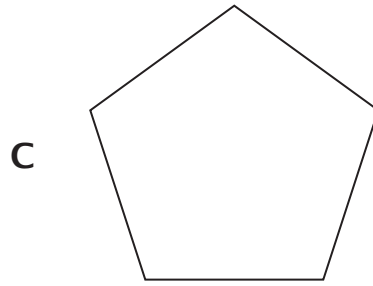
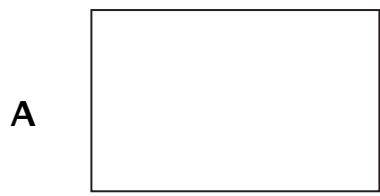
20

蒂芙尼的红苹果数量是她的绿苹果数量的5倍。如果她有20个红苹果，那么她有多少个绿苹果？

- A 4
- B 15
- C 25
- D 100

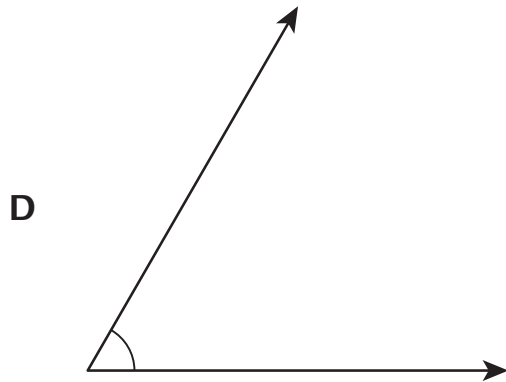
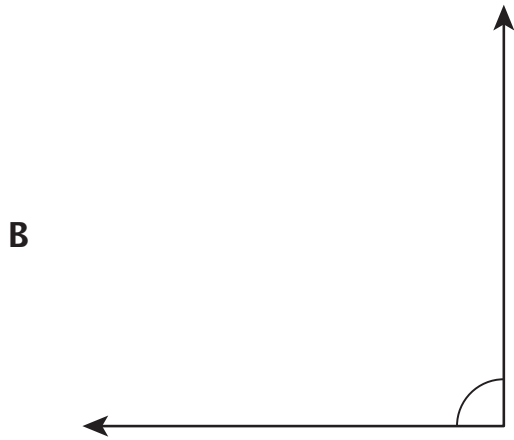
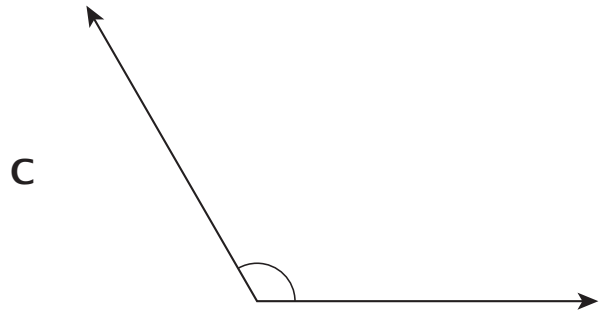
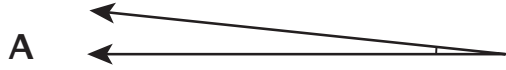
继续

23 哪个图形看起来正好有两条对称轴？

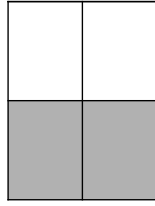


继续

25 哪个角的测量值为 60° ?



- 29 以下所示模型中的阴影部分代表整个模型的一部分。



哪个分数等同于模型中阴影部分所代表的数值？

- A $\frac{4}{2}$
- B $\frac{2}{1}$
- C $\frac{1}{2}$
- D $\frac{1}{4}$

- 30 $7,225 \div 6$ 的值是多少？

- A 1,204
- B 1,204 r1
- C 1,205
- D 1,205 r1

停止

4年级

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第1部分

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Session 1

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Chinese (Simplified) Edition

Grade 4 2023

Mathematics Test

Session 2

May 2–4, 2023

纽约州测试计划 数学测试 第2部分

4 年级

2023年5月2–4日

RELEASED QUESTIONS

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第2部分

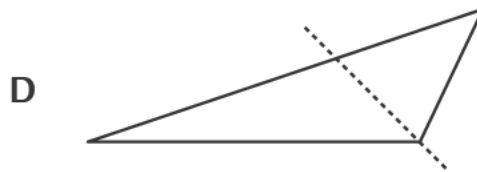
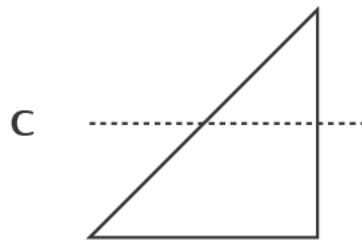
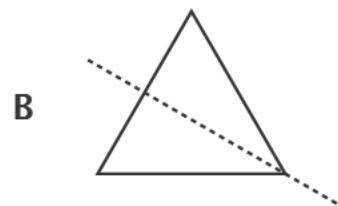
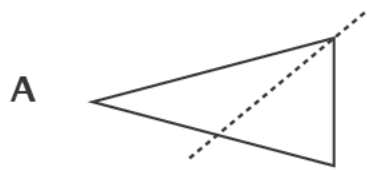


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- 如有要求务必写出你的演算过程。

31 在哪个三角形中，虚线看起来是一条对称轴？



32 哪个比较是正确的？

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

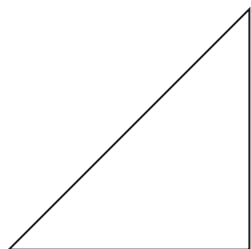
B $\frac{1}{3} > \frac{3}{6}$

C $\frac{3}{6} = \frac{5}{8}$

D $\frac{2}{3} = \frac{4}{6}$

继续

33 关于下图，哪个陈述是正确的？



- A 它看起来都是锐角。
- B 它看起来都有钝角。
- C 它看起来有两条平行的边。
- D 它看起来有两条垂直的边。

34 蒂姆有 3 包记号笔。每包有 12 支记号笔。可以用哪个方程式来求出蒂姆拥有的记号笔的总数 n ？

- A $12 \times n = 3$
- B $3 \times 12 = n$
- C $3 \div n = 12$
- D $12 \div 3 = n$

35 24×11 的值是多少？

- A 35
- B 48
- C 264
- D 364

继续

36

这道题值 1 个学分。

罗茜茜将 $1\frac{3}{4}$ 加仑的蔓越莓汁和 $\frac{3}{4}$ 加仑的苹果汁混合在一起，制成果汁。罗茜茜用蔓越莓汁和苹果汁制作了多少加仑的果汁？

答案 _____ 加仑

继续

37 这道题值 1 个学分。

88,678 这个数字四舍五入到最接近的千后是多少？

答案 _____

继续

38

这道题值 1 个学分。

一个完整的圆里有多少个一度的角？

答案 _____ 个一度角

继续

39

这道题值 2 个学分。

下图中哪些四边形看起来是矩形？请确保在你的答案中包括你对角和边的理解。



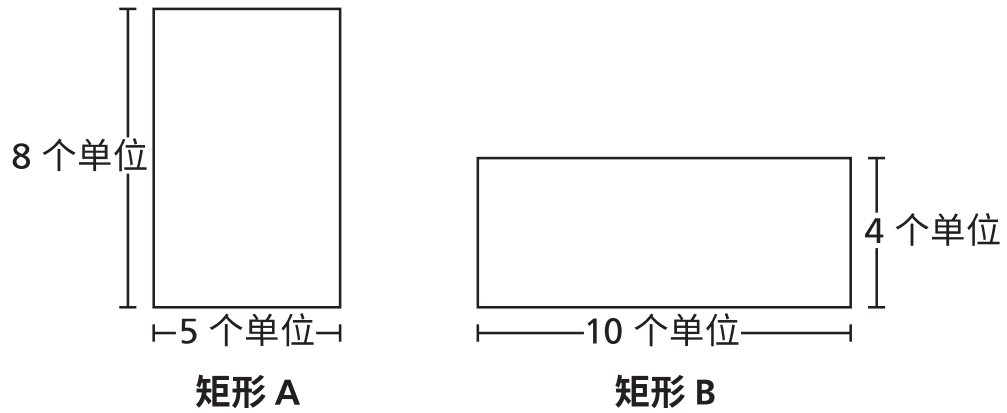
解释你如何知道你的答案是正确的。

继续

40

这道题值 2 个学分。

一名学生画出了如下所示的两个矩形。



该学生认为这两个矩形的面积相同，但周长不同。这名学生说得对吗？请确保在你的答案中包括两个图形的面积和周长。

解释你的答案。

继续

41 这道题值 2 个学分。

什么分数可以加到下面的表达式中，使其成为一个整体的总值？

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

写出你的演算过程。

答案 _____

继续

42 这道题值 2 个学分。

斯泰西玩了两次相同的游戏。她在第二次游戏中得到 36 分，是她在第一次游戏中得分的 4 倍。斯泰西在第一次游戏中得了多少分？

解释你如何知道你的答案是正确的。

继续

43 这道题值 2 个学分。

伦纳德女士有 \$110，去商店买几瓶工艺颜料。每瓶售价 \$9。伦纳德女士用她的钱最多能买多少瓶工艺颜料？

写出你的演算过程。

答案 _____ 瓶

继续

44

这道题值 3 个学分。

本森先生正在根据以下信息制作汉堡包。

- 他有 4 磅肉。
- 他在每个汉堡中使用 $\frac{1}{4}$ 磅肉。
- 他做了 9 个汉堡。

本森先生做完所有的汉堡后，还剩下多少磅肉？

解释你是如何确定你的答案的。

停止

4年级

2023

数学测试

第2部分

2023年5月2-4日

Grade 4

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 4 Released Questions

Question	Type	Key	Points	Standard	Cluster	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	B	1	NGLS.Math.Content.NY-4.NBT.2a	Number and Operations in Base Ten		0.8446		
2	Multiple Choice	D	1	NGLS.Math.Content.NY-4.OA.1	Operations and Algebraic Thinking	NGLS.Math.Content.NY-4.OA.2	0.8901		
5	Multiple Choice	D	1	NGLS.Math.Content.NY-4.NBT.5	Number and Operations in Base Ten		0.5227		
6	Multiple Choice	C	1	NGLS.Math.Content.NY-4.G.2a	Geometry		0.7673		
9	Multiple Choice	A	1	NGLS.Math.Content.NY-3.MD.4	Measurement and Data		0.4896		
10	Multiple Choice	C	1	NGLS.Math.Content.NY-4.NF.3c	Number and Operations - Fractions	NGLS.Math.Content.NY-4.NF.3b	0.5912		
13	Multiple Choice	A	1	NGLS.Math.Content.NY-4.MD.4	Measurement and Data		0.5230		
17	Multiple Choice	B	1	NGLS.Math.Content.NY-4.OA.5	Operations and Algebraic Thinking		0.4852		
19	Multiple Choice	B	1	NGLS.Math.Content.NY-4.NF.4b	Number and Operations - Fractions		0.7625		
20	Multiple Choice	A	1	NGLS.Math.Content.NY-4.OA.2	Operations and Algebraic Thinking		0.4757		
23	Multiple Choice	A	1	NGLS.Math.Content.NY-4.G.3	Geometry		0.4949		
25	Multiple Choice	D	1	NGLS.Math.Content.NY-4.MD.6	Measurement and Data		0.7627		
29	Multiple Choice	C	1	NGLS.Math.Content.NY-4.NF.1	Number and Operations - Fractions		0.6225		
30	Multiple Choice	B	1	NGLS.Math.Content.NY-4.NBT.6	Number and Operations in Base Ten		0.6966		
Session 2									
31	Multiple Choice	B	1	NGLS.Math.Content.NY-4.G.3	Geometry		0.7753		
32	Multiple Choice	D	1	NGLS.Math.Content.NY-4.NF.2	Number and Operations - Fractions		0.6466		
33	Multiple Choice	D	1	NGLS.Math.Content.NY-4.G.1	Geometry		0.3905		
34	Multiple Choice	B	1	NGLS.Math.Content.NY-4.OA.3a	Operations and Algebraic Thinking		0.8271		
35	Multiple Choice	C	1	NGLS.Math.Content.NY-4.NBT.5	Number and Operations in Base Ten		0.8158		
36	Constructed Response		1	NGLS.Math.Content.NY-4.NF.3d	Number and Operations - Fractions			0.7396	0.7396
37	Constructed Response		1	NGLS.Math.Content.NY-4.NBT.3	Number and Operations in Base Ten			0.6004	0.6004
38	Constructed Response		1	NGLS.Math.Content.NY-4.MD.5a	Measurement and Data			0.6389	0.6389
39	Constructed Response		2	NGLS.Math.Content.NY-4.G.2c	Geometry			0.2392	0.1196
40	Constructed Response		2	NGLS.Math.Content.NY-3.MD.8b	Measurement and Data			0.4233	0.2117
41	Constructed Response		2	NGLS.Math.Content.NY-4.NF.3b	Number and Operations - Fractions			0.6407	0.3204
42	Constructed Response		2	NGLS.Math.Content.NY-4.OA.2	Operations and Algebraic Thinking			0.6132	0.3066
43	Constructed Response		2	NGLS.Math.Content.NY-4.NBT.6	Number and Operations in Base Ten			0.5910	0.2955
44	Constructed Response		3	NGLS.Math.Content.NY-4.NF.4c	Number and Operations - Fractions			0.2975	0.0992

*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.