New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

New York State Testing Program
Grade 5
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.

姓名：_____

Chinese (Simplified) Edition

Grade 5 2023

Mathematics Test

Session 1

May 2–4, 2023

纽约州测试计划
数学测试
第1部分

5年级

2023年5月2–4日

RELEASED QUESTIONS

第1部分

参加本次考试的提示

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。
- 你已获得了数学工具（一把尺子和一个量角器）和参考表供你在考试中使用。由你决定各工具及参考表将在何时有用。你应当在认为数学工具和参考表对你答题有帮助时使用它们。

1 安东尼的冰箱里有一整块披萨饼的 $\frac{7}{8}$。他午餐时吃了一整块披萨饼的 $\frac{3}{8}$。安东尼午餐时吃完披萨后，整个披萨还剩下几分之几?

A $\frac{10}{8}$

B $\frac{5}{8}$

C $\frac{4}{8}$

D $\frac{3}{8}$

2 什么数字代表千分之九十九?

A 0.099

B 0.990

C 9.900

D 99.000

3 一个直立矩形棱柱形状的装运箱有一个面积为 16 平方英尺的底，高为 6 英尺。这个箱子的体积是多少立方英尺?

A 22

B 96

C 192

D 1,536

继续

8 哪个数字的值和 32×10^4 相等?

A 3.2

B 320

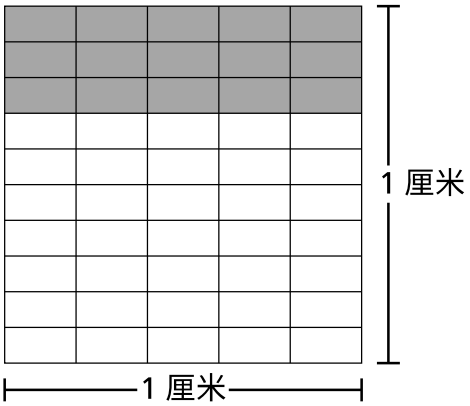
C 0.0032

D 320,000

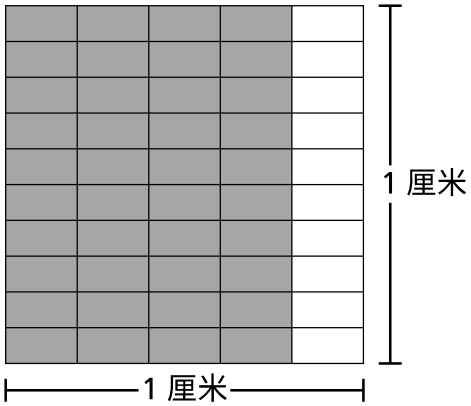
继续

9 哪个模型用阴影表示一个长 $\frac{4}{5}$ 厘米、宽 $\frac{3}{10}$ 厘米的矩形的面积?

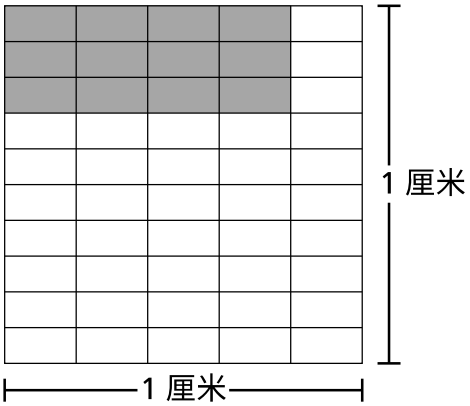
A



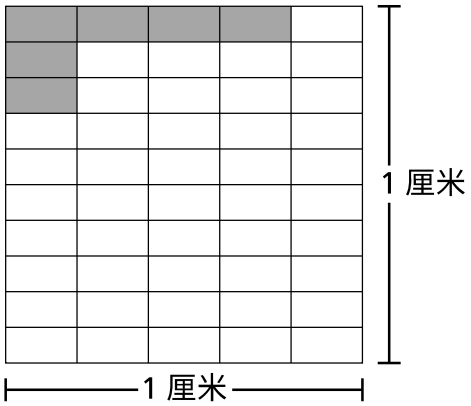
C



B



D



10 一个商场的停车场有 2,232 个停车位。每排有 24 个停车位。停车场里有多少排车位?

A 89

B 93

C 94

D 97

11 一位老师有 20英尺的绳子要用于一个班级项目。她用完了所有的绳子，给了 8个学生同等长度的绳子。每个学生将得到多少英尺的绳子?

A $2\frac{1}{5}$

B $2\frac{3}{10}$

C $2\frac{1}{2}$

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

14 8,642 除以 10 后，十位上的数字是多少？

A 2

B 4

C 6

D 8

继续

17 哪个表达式的值小于 $1\frac{1}{2}$？

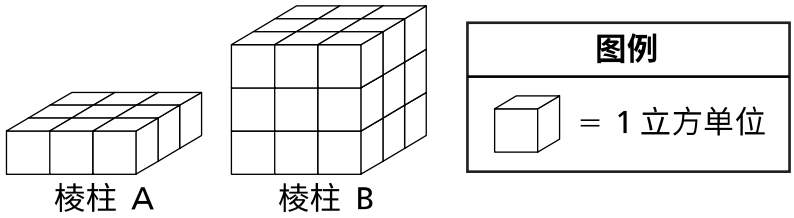
A $1\frac{1}{2} \times \frac{3}{2}$

B $1\frac{1}{2} \times \frac{1}{2}$

C $1\frac{1}{2} \times 2$

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

18 下面是两个直立矩形棱柱的示意图，每个直立矩形棱柱都由单位立方体组成。



棱柱 A 和棱柱 B 的总体积是多少立方单位？

A 9

B 18

C 27

D 36

20 从周五到周日，某小镇的总降雪量为 34 英寸。

- 周五的降雪量为 11.25 英寸。
- 周六的降雪量为 9.9 英寸。

周日的降雪量为多少英寸?

A 12.85

B 13.15

C 20.34

D 21.15

21 多里安走路的平均速度为每小时 $2\frac{1}{2}$ 英里。他走了 $\frac{3}{4}$ 小时。他走了多少英里?

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

B $1\frac{7}{8}$

C $2\frac{3}{8}$

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

继续

26 罗曼女士买了 3.5 磅的鸟食。她每磅支付 $4.28。罗曼女士为所有的鸟食支付了多少钱?

A $4.28

B $7.78

C $12.84

D $14.98

29 一家商店出售成包的黑色钢笔、蓝色钢笔和红色钢笔。

- 其中 $\frac{4}{9}$ 包是黑色钢笔
- 其中 $\frac{1}{6}$ 包是蓝色钢笔

红色钢笔占整包的几分之几?

A $\frac{5}{15}$

B $\frac{7}{18}$

C $\frac{10}{15}$

D $\frac{11}{18}$

停止

姓名：_____

Chinese (Simplified) Edition

Grade 5 2023

Mathematics Test

Session 2

May 2–4, 2023

纽约州测试计划
数学测试
第2部分

5年级

2023年5月2–4日

RELEASED QUESTIONS

第2部分

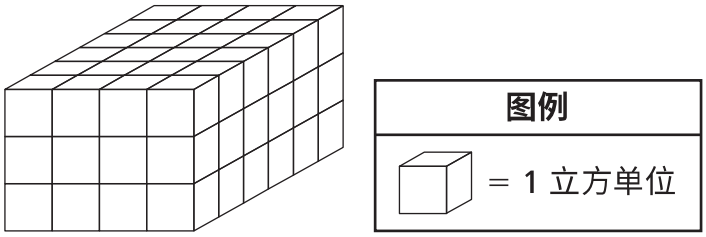
第2部分

参加本次考试的提示

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，在做出选择或写下答案前思考答案。
- 你已获得了数学工具（一把尺子和一个量角器）和参考表供你在考试中使用。由你决定各工具及参考表将在何时有用。你应当在认为数学工具和参考表对你答题有帮助时使用它们。
- 回答时务必写出你的演算过程。

31 下面是一个由单位立方体组成的直立矩形棱柱的图示。



直立矩形棱柱的体积是多少立方单位?

A 13

B 24

C 60

D 72

32 有 210 个苹果被均等地放入 14 个箱子中。每个箱子中有多少个苹果?

A 12

B 14

C 15

D 21

继续

33 戴安在周六走了 $3\frac{3}{8}$ 英里。她周日走的路比周六少 $1\frac{5}{6}$ 英里。戴安在周日走了多少英里?

A $1\frac{13}{24}$

B $2\frac{11}{24}$

C $2\frac{13}{24}$

D $5\frac{5}{24}$

34 关于菱形和正方形的哪个说法总是正确的?

A 这两个图形都是平行四边形，有四条相等的边。

B 这两个图形都是平行四边形，有四个直角。

C 这两个图形都是四边形，正好都有两个锐角。

D 这两个图形都是四边形，正好都有一对平行的边。

35 一个餐厅的厨师有 13 加仑的牛奶。这个厨师有多少夸脱牛奶?

A 17

B 26

C 42

D 52

36 **这道题值1个学分。**

下面是用牙签制作的四座塔的高度，单位是英寸。

- 33.1
- 33.2
- 29.3
- 33.3

写一个数字句型，比较两座最高的塔的高度，单位是英寸。务必在你的答案中包含符号 >、< 或 =。

答案 _____

继续

37 **这道题值1个学分。**

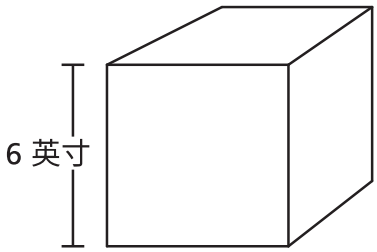
安德烈正在用一条 15英尺长的丝带做一个艺术项目。他将丝带切成等长的段，每段长度为 $\frac{1}{3}$ 英尺。安德烈用所有的丝带一共剪了多少条丝带?

答案 _____ 条

继续

38 **这道题值1个学分。**

下图所示的立方体的体积是多少立方英寸?



答案 _____ 立方英寸

继续

39 **这道题值2个学分。**

约西亚总共做了 195 盎司的柠檬水。他把柠檬水倒进 16 盎司的瓶子里，直到每瓶都装满。约西亚能完全装满柠檬水的瓶子的最大数量是多少？

写出你的演算过程。

答案 _____ 瓶

40 **这道题值2个学分。**

下面是一个乘法问题。

$$42 \times \frac{5}{8}$$

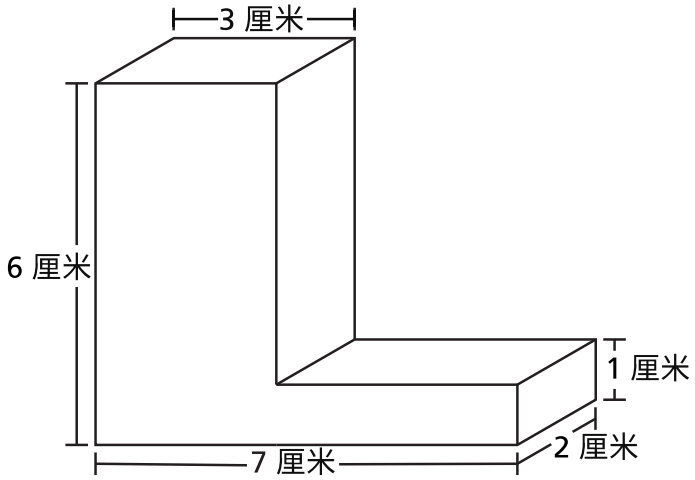
一名学生说乘积将大于 42。这名学生说得对吗？解释一下，不要计算乘积。

解释你如何知道你的答案是正确的。

继续

41 **这道题值2个学分。**

下面是一个 3 维图形的图示。



这个图形的体积是多少立方厘米?

写出你的演算过程。

答案 _____ 立方厘米

42 **这道题值2个学分。**

如下所示，一个学生用展开式写出了 67.203。

$$(6 \times 10) + (7 \times 1) + \left(2 \times \frac{1}{10}\right) + \left(3 \times \frac{1}{100}\right)$$

该学生犯了一个错误。该学生在哪里犯了错误？作为答案的一部分，请以正确的展开式写出该数字。

解释你的答案。

43 **这道题值2个学分。**

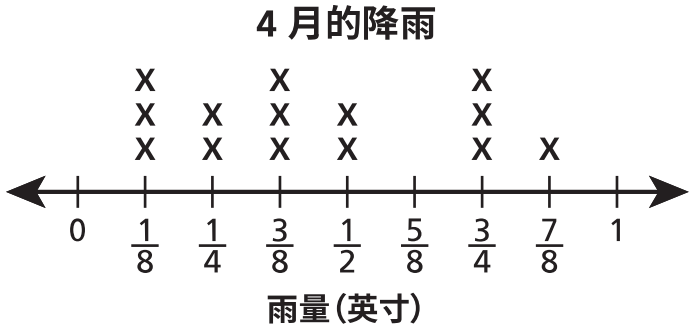
亚当打开一个 $\frac{1}{2}$ 磅重的金枪鱼罐头。他用所有的金枪鱼来喂他的猫。他把等量的金枪鱼放在4个容器里喂猫。每个容器里有多少磅金枪鱼？

写出你的演算过程。

答案 _____ 磅

44 **这道题值3个学分。**

下面的线图显示了某城市在 4 月份的降雨量。



4 月份记录的总雨量是多少英寸?

写出你的演算过程。

答案 _____ 英寸

8 月期间，该市的总降雨量为 $8\frac{1}{4}$ 英寸。8 月和 4 月的总降雨量相差多少英寸?

写出你的演算过程。

答案 _____ 英寸

停止

5年级
2023
数学测试
第2部分
2023年5月2–4日

Grade 5
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 5 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	C	1	NGLS.Math.Content.NY-5.NF.2	Number and Operations - Fractions		0.8386		
2	Multiple Choice	A	1	NGLS.Math.Content.NY-5.NBT.3a	Number and Operations in Base Ten		0.7290		
3	Multiple Choice	B	1	NGLS.Math.Content.NY-5.MD.5b	Measurement and Data		0.6640		
8	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NBT.2	Number and Operations in Base Ten		0.7008		
9	Multiple Choice	B	1	NGLS.Math.Content.NY-5.NF.4b	Number and Operations - Fractions		0.4596		
10	Multiple Choice	B	1	NGLS.Math.Content.NY-5.NBT.6	Number and Operations in Base Ten		0.6637		
11	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NF.3	Number and Operations - Fractions		0.5505		
14	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NBT.1	Number and Operations in Base Ten	NGLS.Math.Content.NY-5.NBT.2	0.5570		
17	Multiple Choice	B	1	NGLS.Math.Content.NY-5.NF.5a	Number and Operations - Fractions		0.5380		
18	Multiple Choice	D	1	NGLS.Math.Content.NY-5.MD.4	Measurement and Data		0.6600		
20	Multiple Choice	A	1	NGLS.Math.Content.NY-5.NBT.7	Number and Operations in Base Ten		0.4028		
21	Multiple Choice	B	1	NGLS.Math.Content.NY-5.NF.6	Number and Operations - Fractions		0.3210		
26	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NBT.7	Number and Operations in Base Ten		0.5025		
29	Multiple Choice	B	1	NGLS.Math.Content.NY-5.NF.2	Number and Operations - Fractions		0.4339		
Session 2									
31	Multiple Choice	D	1	NGLS.Math.Content.NY-5.MD.4	Measurement and Data		0.7249		
32	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NBT.6	Number and Operations in Base Ten		0.5397		
33	Multiple Choice	A	1	NGLS.Math.Content.NY-5.NF.2	Number and Operations - Fractions		0.4590		
34	Multiple Choice	A	1	NGLS.Math.Content.NY-5.G.4	Geometry		0.5202		
35	Multiple Choice	D	1	NGLS.Math.Content.NY-5.MD.1	Measurement and Data		0.7378		
36	Constructed Response		1	NGLS.Math.Content.NY-5.NBT.3b	Number and Operations in Base Ten			0.5240	0.5240
37	Constructed Response		1	NGLS.Math.Content.NY-5.NF.7c	Number and Operations - Fractions			0.3846	0.3846
38	Constructed Response		1	NGLS.Math.Content.NY-5.MD.5b	Measurement and Data			0.4519	0.4519
39	Constructed Response		2	NGLS.Math.Content.NY-5.NBT.6	Number and Operations in Base Ten			0.5655	0.2828
40	Constructed Response		2	NGLS.Math.Content.NY-5.NF.5b	Number and Operations - Fractions			0.3059	0.1530
41	Constructed Response		2	NGLS.Math.Content.NY-5.MD.5c	Measurement and Data			0.3082	0.1541
42	Constructed Response		2	NGLS.Math.Content.NY-5.NBT.3a	Number and Operations in Base Ten			0.4890	0.2445
43	Constructed Response		2	NGLS.Math.Content.NY-5.NF.7c	Number and Operations - Fractions			0.3506	0.1753
44	Constructed Response		3	NGLS.Math.Content.NY-5.MD.2	Measurement and Data			0.3523	0.1174

*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.