New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

New York State Testing Program
Grade 6
Mathematics Test
Chinese (Simplified)

Released Questions

2024

New York State administered the Mathematics Tests in May 2024 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 2024 Exams

Background

As in past years, SED is releasing large portions of the 2024 NYS Grades 3–8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2024, included in these released materials are at least 75 percent of the test questions that appeared on the 2024 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 6 2024

Mathematics Test

Session 1

Spring 2024

纽约州测试计划
数学测试
第 1 部分

6 年级

2024 年春季

RELEASED QUESTIONS

第 1 部分

参加本次考试的提示

以下是一些可以帮助你做到最好的建议：

- 仔细阅读每道题目。慢慢来，别着急。
- 你已获得一把尺子、一个量角器和一张参考表，如果它们对你答题有帮助，则可在测试中使用。

2 哪个表达式表示比 2 和 y 的乘积多 5？

A $2 + y + 5$

B $2y + 5$

C $5 + \frac{2}{y}$

D $5 + \frac{y}{2}$

继续

3 b 为哪个值时可使不等式 $3b > 12$ 成立?

A 2

B 3

C 4

D 5

4 可使用一个坐标平面来显示两个位置之间的单位距离。以下列出了杰克的家和商店的位置。

- 杰克的家位于 $(-7, -8)$。
- 商店位于 $(-7, 4)$。

杰克的家与商店之间的距离是多少个单位?

A 4

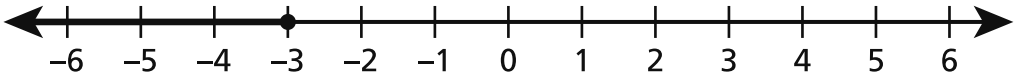
B 8

C 12

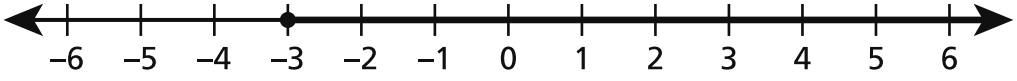
D 14

11 哪个数轴表示 $x \geq -3$？

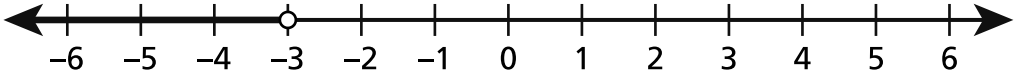
A



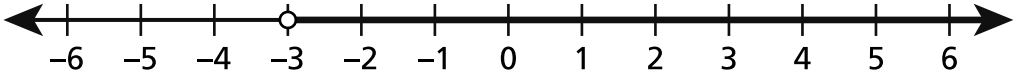
B



C



D



继续

14 表达式 $8^2 \div 4 \times 2^3$ 的值是多少?

A 16

B 24

C 96

D 128

15 本购买了 $1\frac{1}{4}$ 磅坚果并将它们放入袋子中。每个袋子装 $\frac{1}{8}$ 磅坚果。他将所有坚果装满每个袋子。本将坚果装入了多少个袋子中?

A $\frac{5}{32}$

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

C 2

D 10

18 哪个表达式表示数字 $-2\frac{1}{2}$ 的相反数?

A $-\left(2\frac{1}{2}\right)$

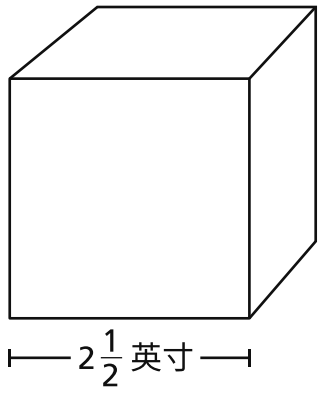
B $-\left(-2\frac{1}{2}\right)$

C $-2\left(\frac{1}{2}\right)$

D $2\left(-\frac{1}{2}\right)$

继续

20 下图显示了一个正方体。



这个正方体的体积是多少立方英寸?

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

B $7\frac{1}{2}$

C $15\frac{5}{8}$

D $20\frac{5}{6}$

22 塔米和雅各布收集邮票。塔米有 s 张邮票。雅各布的邮票数比塔米拥有的邮票数的 3 倍少 4 张。可使用哪个表达式来表示雅各布拥有的邮票数量?

A $3 - 4s$

B $3s - 4$

C $4 - 3s$

D $4s - 3$

23 一个容器可容纳 6 加仑液体。该容器可容纳多少品脱液体?

A 6

B 8

C 24

D 48

26 哪个有序对表示点 $(-4, 6)$ 在 x 轴上反射的点的位置?

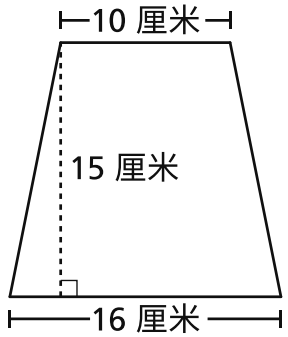
A $(4, 6)$

B $(-4, -6)$

C $(6, -4)$

D $(-6, 4)$

28 以下显示了一个等腰梯形。



这个等腰梯形的面积是多少平方厘米?

A 120

B 150

C 195

D 240

29 以下显示了一个不等式。

$$-\frac{9}{20} > -\frac{21}{24}$$

关于数轴上数字的位置，哪个陈述是正确的?

A $-\frac{9}{20}$ 在 $-\frac{21}{24}$ 的左侧，并且在 0 的右侧。

B $-\frac{9}{20}$ 在 $-\frac{21}{24}$ 的右侧，并且在 0 的左侧。

C $-\frac{9}{20}$ 在 $-\frac{21}{24}$ 的左侧，并且在 0 的左侧。

D $-\frac{9}{20}$ 在 $-\frac{21}{24}$ 的右侧，并且在 0 的右侧。

6 年级
数学测试
第 1 部分
2024 年春季

Grade 6
Mathematics Test
Session 1
Spring 2024

姓名：_____

Chinese (Simplified) Edition

Grade 6 2024

Mathematics Test

Session 2

Spring 2024

纽约州测试计划
数学测试
第 2 部分
6 年级

2024 年春季

RELEASED QUESTIONS

第 2 部分

第 2 部分

参加本次考试的提示

以下是一些可以帮助你做到最好的建议：

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- 如果有相关要求，回答时务必写出你的演算过程。
- 如果有相关要求，回答时务必解释你的答案。

31 一份 8 盎司的苏打水含有 104 卡路里的热量。1 盎司苏打水含有多少卡路里的热量?

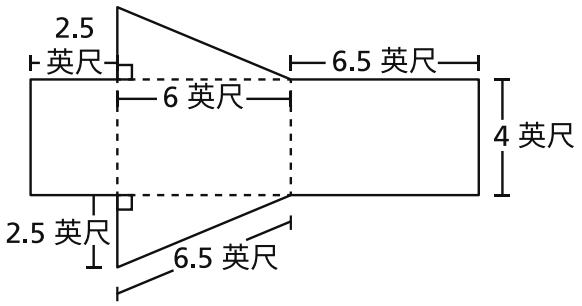
A 13

B 26

C 52

D 96

32 约瑟搭建了一个直角三棱柱形状的滑板坡道。以下展开图显示了该坡道各部分的尺寸。



该坡道的表面积是多少平方英尺?

A 90

B 75

C 51

D 44

33 数字 4 是哪个数字的 16%？

A 12

B 20

C 25

D 64

34 一台机器以恒定速率生产巧克力。该机器在 42 分钟内生产出 7 磅巧克力。该机器生产 9 磅巧克力将需要多少分钟?

A 6

B 15

C 54

D 63

35 一个直角棱镜形状的麦片盒的尺寸如下所示。

$8\frac{1}{10}$ 英寸乘以 $4\frac{4}{5}$ 英寸乘以 $12\frac{1}{2}$ 英寸

这个麦片盒的体积是多少立方英寸?

A 24

B $25\frac{2}{5}$

C $384\frac{1}{25}$

D 486

36 一家教育公司辅导学生的费用为每小时 $25.00。辅导多少小时的费用将为 $62.50？

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

B $3\frac{1}{2}$

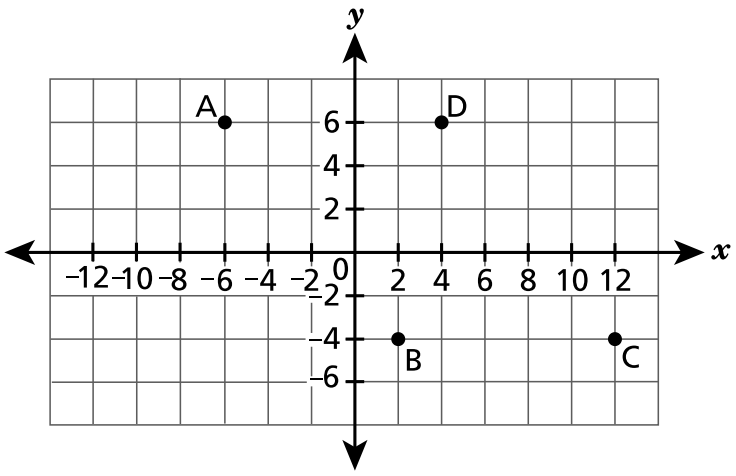
C $37\frac{1}{2}$

D $87\frac{1}{2}$

继续

37 **这道题值 1 个学分。**

在以下所示的坐标平面上绘制了一个平行四边形的四个顶点。



顶点 A 与 D 之间的距离是多少个单位?

答案 _____ 个单位

38 **这道题值 1 个学分。**

n 的值是多少可使方程式 $\frac{n}{8} = 17$ 成立?

答案 _____

继续

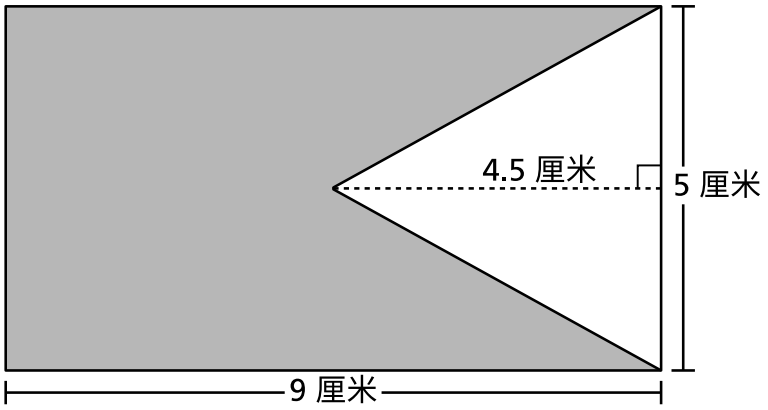
39 **这道题值 1 个学分。**

一位画家采用 6 加仑橙色颜料与 8 加仑蓝色颜料的比例。如果该画家使用 1 加仑蓝色颜料，那么将使用多少加仑的橙色颜料？

答案 _____ 加仑

40 **这道题值 2 个学分。**

下图显示了一个带有阴影部分的矩形旗帜。



这个旗帜阴影部分的面积是多少平方厘米?

写出你的演算过程。

答案 _____ 平方厘米

继续

41 **这道题值 2 个学分。**

一名学生称表达式 $6 + 8x$ 等于表达式 $3(3 + 5x)$。这名学生的说法有什么不正确的地方？务必在你的答案中包含等于 $3(3 + 5x)$ 的表达式。

解释你的答案。

42 **这道题值 2 个学分。**

迈克每次乘坐公共汽车都需要一张车票。假定方程式为 $c = 2.75t$，迈克购买的车票数量 t 与总费用 c 之间的关系是什么？ 务必在你的答案中确定哪个变量是自变量，哪个变量是因变量。

解释你的答案。

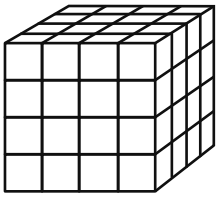
43 **这道题值 2 个学分。**

一名学生称 4 是 24 和 40 的最大公因数，因为这两个数字都是 4 的倍数。该学生的说法是否正确？

解释你如何知道你的答案是正确的。

44 **这道题值 2 个学分。**

以下显示了一个由单位正方体组成的棱柱。



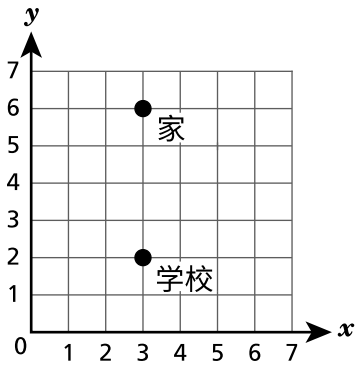
该棱柱的体积表示什么完美正方体？务必在你的答案中包含你对体积和指数的了解。

解释你的答案。

继续

45 **这道题值 2 个学分。**

以下所示的坐标平面上标出了杰克的学校和家的位置。



从杰克的学校到他家的距离是多少个单位？务必包含这两个位置的坐标以及如何使用这些坐标来确定你的答案。

解释你是如何确定你的答案的。

46 **这道题值 3 个学分。**

雷克斯和尼罗正在攒钱买新自行车。他们均从 $0.00 开始积攒，并以恒定速率积攒 16 个月。下表显示了雷克斯和尼罗在不同月数结束时积攒的总钱数（单位为美元）。

雷克斯积攒的钱数

月数	2	4	6	8
积攒的钱数（美元）	18	36	54	72

尼罗积攒的钱数

月数	3	6	9	12
积攒的钱数（美元）	36	72	108	144

在 16 个月结束时，雷克斯积攒的钱数与尼罗积攒的钱数之差是多少？

写出你的演算过程。

答案 $ _____

停止

6 年级
数学测试
第 2 部分
2024 年春季

Grade 6
Mathematics Test
Session 2
Spring 2024

THE STATE EDUCATION DEPARTMENT

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

2024 Mathematics Tests Map to the Standards

Grade 6

Question	Type	Key	Points	Standard	Cluster	Subscore	Secondary Standard(s)
Session 1							
2	Multiple Choice	B	1	NGLS.Math.Content.NY-6.EE.2a	Expressions and Equations	Expressions and Equations	
3	Multiple Choice	D	1	NGLS.Math.Content.NY-6.EE.5	Expressions and Equations	Expressions and Equations	
4	Multiple Choice	C	1	NGLS.Math.Content.NY-6.NS.8	The Number System	The Number System	
11	Multiple Choice	B	1	NGLS.Math.Content.NY-6.EE.8	Expressions and Equations	Expressions and Equations	
14	Multiple Choice	D	1	NGLS.Math.Content.NY-6.EE.1	Expressions and Equations	Expressions and Equations	
15	Multiple Choice	D	1	NGLS.Math.Content.NY-6.NS.1	The Number System	The Number System	
18	Multiple Choice	B	1	NGLS.Math.Content.NY-6.NS.6a	The Number System	The Number System	
20	Multiple Choice	C	1	NGLS.Math.Content.NY-6.G.2	Geometry		
22	Multiple Choice	B	1	NGLS.Math.Content.NY-6.EE.6	Expressions and Equations	Expressions and Equations	
23	Multiple Choice	D	1	NGLS.Math.Content.NY-6.RP.3d	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
26	Multiple Choice	B	1	NGLS.Math.Content.NY-6.NS.6b	The Number System	The Number System	
28	Multiple Choice	C	1	NGLS.Math.Content.NY-6.G.1	Geometry		
29	Multiple Choice	B	1	NGLS.Math.Content.NY-6.NS.7a	The Number System	The Number System	
Session 2							
31	Multiple Choice	A	1	NGLS.Math.Content.NY-6.RP.2	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
32	Multiple Choice	B	1	NGLS.Math.Content.NY-6.G.4	Geometry		
33	Multiple Choice	C	1	NGLS.Math.Content.NY-6.RP.3c	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
34	Multiple Choice	C	1	NGLS.Math.Content.NY-6.RP.3b	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
35	Multiple Choice	D	1	NGLS.Math.Content.NY-6.G.2	Geometry		
36	Multiple Choice	A	1	NGLS.Math.Content.NY-6.EE.7	Expressions and Equations	Expressions and Equations	NGLS.Math.Content.NY-6.RP.3b
37	Constructed Response	n/a	1	NGLS.Math.Content.NY-6.G.3	Geometry		
38	Constructed Response	n/a	1	NGLS.Math.Content.NY-6.EE.7	Expressions and Equations	Expressions and Equations	
39	Constructed Response	n/a	1	NGLS.Math.Content.NY-6.RP.2	Ratios and Proportional Relationships	Ratios and Proportional Relationships	NGLS.Math.Content.NY-6.RP.3b
40	Constructed Response	n/a	2	NGLS.Math.Content.NY-6.G.1	Geometry		
41	Constructed Response	n/a	2	NGLS.Math.Content.NY-6.EE.4	Expressions and Equations	Expressions and Equations	
42	Constructed Response	n/a	2	NGLS.Math.Content.NY-6.EE.9	Expressions and Equations	Expressions and Equations	
43	Constructed Response	n/a	2	NGLS.Math.Content.NY-6.NS.4	The Number System	The Number System	
44	Constructed Response	n/a	2	NGLS.Math.Content.NY-6.G.5	Geometry		
45	Constructed Response	n/a	2	NGLS.Math.Content.NY-6.NS.8	The Number System	The Number System	
46	Constructed Response	n/a	3	NGLS.Math.Content.NY-6.RP.3a	Ratios and Proportional Relationships	Ratios and Proportional Relationships	

*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.