



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 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 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.

名称: _____



Chinese (Simplified) Edition

Grade 3 2022

Mathematics Test

Session 1

April 26–28, 2022

纽约州测试计划

数学测试

第1部分

3 年级

2022年4月26–28日

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. Copyright © 2022 by the New York State Education Department.

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。
- 你已获得了一把尺子供你在考试中使用。一旦你认为这把尺子对你答题有帮助,你就应当使用它。

1 格林先生购买了 4 包杯子。每包有 8 个杯子。可使用哪个表达式来确定格林先生购买的杯子数量？

A $8 \div 4$

B $8 - 4$

C $8 + 4$

D 8×4

2 以下所示的数轴上的点 M 代表哪个分数？



A $\frac{3}{4}$

B $\frac{2}{4}$

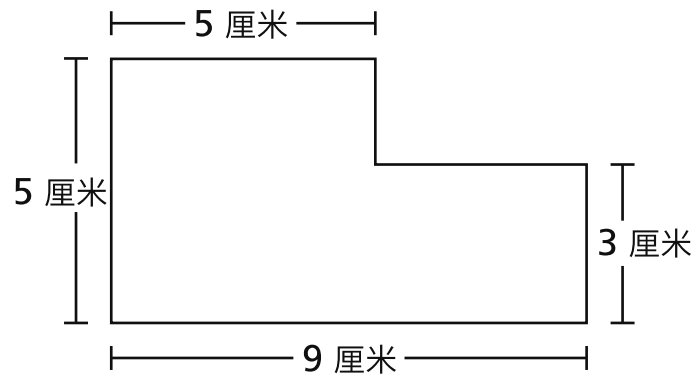
C $\frac{3}{2}$

D $\frac{2}{3}$

继续

3

一名学生通过组合两个矩形来制作以下所示的形状。



这名学生制作的形状的面积是多少平方厘米？

- A 22
- B 37
- C 45
- D 52

4

一名工人有 3 袋鹅卵石将在花园中使用。每袋鹅卵石的质量是 9 公斤。所有这些袋鹅卵石的总质量是多少公斤？

- A 3
- B 6
- C 12
- D 27

继续

9 哪个表达式等同于 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 扎克进行庭院劳动每周赚取相同的金额。如果他在 4 周结束时赚取了 \$36，那么扎克每周赚多少钱？

- A \$9
- B \$32
- C \$40
- D \$144

11 7×70 的值是多少？

- A 49
- B 77
- C 490
- D 770

12 一名学生在一张纸上画一个矩形。他将其中两条边标记为 1 个单位，将另外两条边标记为 2 个单位。这个矩形的面积是多少？

- A 2 平方单位
- B 4 个单位
- C 4 平方单位
- D 6 个单位

继续

15 什么数字可使以下方程式成立？

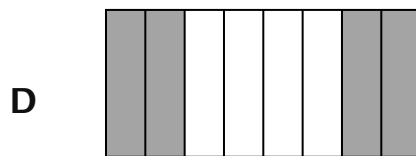
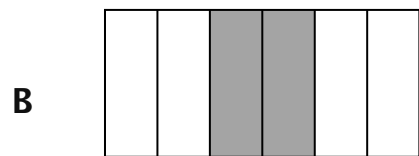
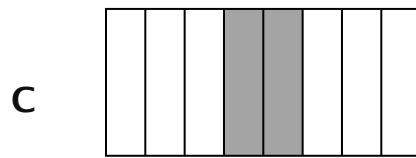
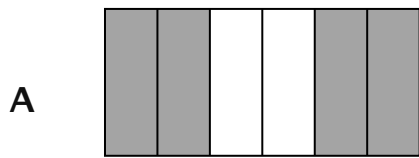
$$48 \div \underline{\quad ? \quad} = 8$$

- A 6
- B 7
- C 40
- D 56

16 以下模型的阴影部分表示一个分数。

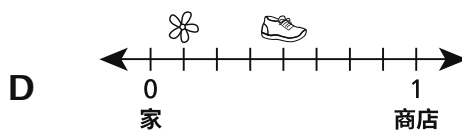
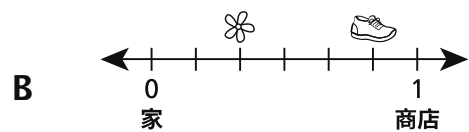
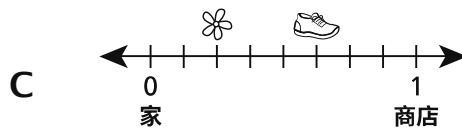
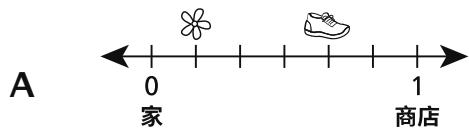


哪个图用阴影部分来表示与所示模型等同的分数？



22

格雷格从家到商店走了 1 英里。走了 $\frac{2}{6}$ 英里后，他停下来去闻一朵花。又走了 $\frac{3}{6}$ 英里后，他停下来系鞋带。哪个数轴正确显示了格雷格闻这朵花所在的位置以及他系鞋带所在的位置？



3年级

2022

数学测试

第1部分

2022年4月26–28日

Grade 3

2022

Mathematics Test

Session 1

April 26–28, 2022

名称: _____



Chinese (Simplified) Edition

Grade 3 2022

Mathematics Test

Session 2

April 26–28, 2022

纽约州测试计划 数学测试 第2部分

3 年级

2022年4月26–28日

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. Copyright © 2022 by the New York State Education Department.

第2部分

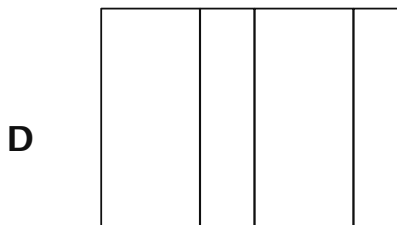
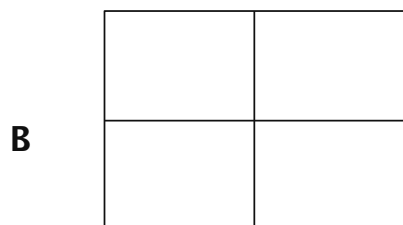
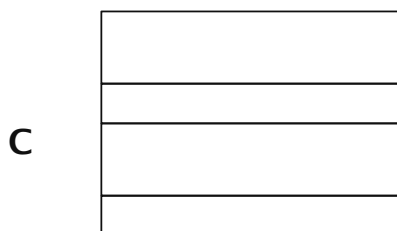
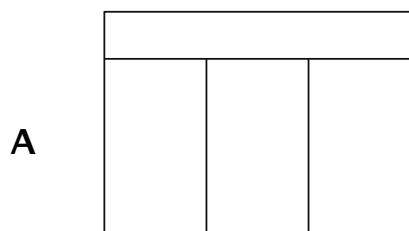


参加本次考试的提示

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。
- 你已获得了一把尺子供你在考试中使用。你应当在认为这把尺子对你答题有帮助时使用它。
- 回答时务必写出你的演算过程。

26 哪个矩形被分成 4 个相等的部分？

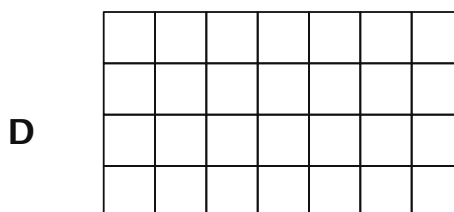
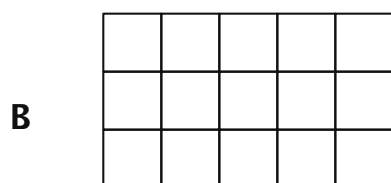
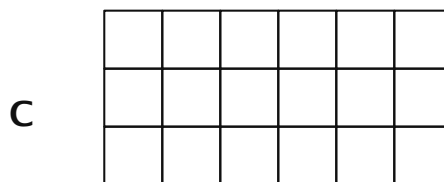
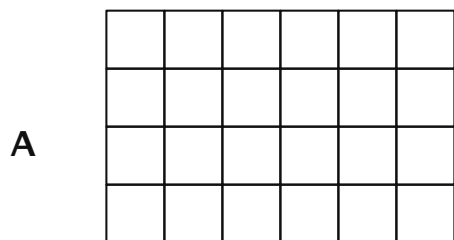


27 一家宠物店有 4 个相同大小的鱼缸。一名工人在每个鱼缸中放入 10 升水。这名工人在所有这些鱼缸中放入的水的总升数是多少？

- A 4
- B 6
- C 14
- D 40

继续

28 哪个数组表示 3×6 ?



29 哪个数字模式使用加 3 这一规律?

A 2、6、18、48...

B 3、7、11、15...

C 3、9、27、54...

D 4、7、10、13...

30 哪个分数小于 $\frac{1}{4}$?

A $\frac{2}{4}$

B $\frac{4}{4}$

C $\frac{1}{3}$

D $\frac{1}{6}$

31 迈卡有 35 颗口香糖球。他把所有口香糖球给了 7 个朋友。每个朋友得到相同数量的口香糖球。可使用哪个表达式来确定迈卡给每个朋友的口香糖球数量?

A $35 - 7$

B $35 \div 7$

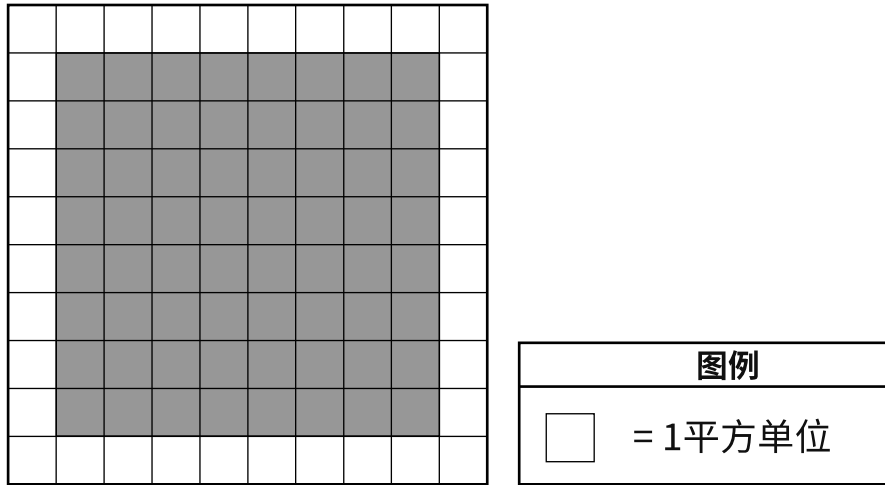
C $35 + 7$

D 35×7

继续

32

下图由单位正方形组成。一些单位正方形有阴影，一些单位正方形没有阴影。

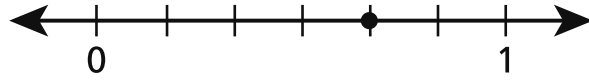


哪个过程描述了确定这个图阴影部分面积（平方单位）的一种方式？

- A 计数整个图中的所有单位正方形
- B 仅计数这个图中有阴影的单位正方形
- C 将整个图中的所有边长加起来
- D 仅将这个图中阴影部分的边长加起来

33

以下数轴显示了一个点。



这个点在数轴上的位置代表哪个等值分数？

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

继续

34 三个班级到动物园进行实地考察。以下列出了每个班级的学生人数。

- A 班有 24 名学生。
- B 班有 23 名学生。
- C 班有 25 名学生。

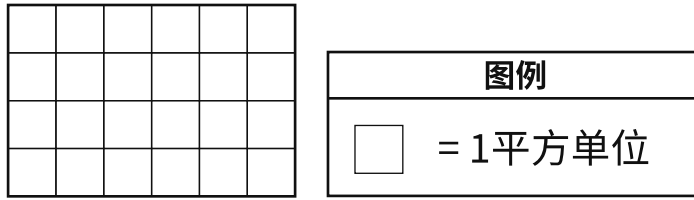
到动物园时，所有学生被分成 8 个相等的小组。每组中有多少名学生？

写出你的演算过程。

答案 _____ 名学生

35

以下显示了一个图。



在这个图中又添加了一行 6 个单位正方形。在添加了这些单位正方形后，新图的总面积是多少？

写出你的演算过程。

答案 _____ 平方单位

继续

36

一家电影院的经理需要订购 267 个新座椅。如果这些座椅仅按 10 个一组进行销售，那么这位经理应订购的座椅数至少是多少？

解释你如何知道你的答案是正确的。

继续

第9页

37 山姆需要解答以下所示的问题。

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

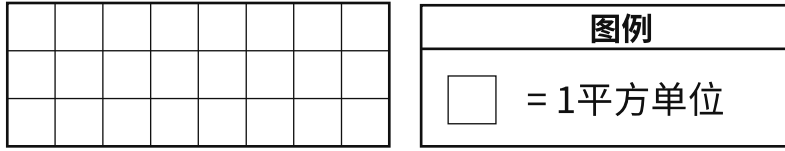
他使用方程 $63 \div 7 = \underline{\quad ? \quad}$ 来确定未知数字。这个过程会帮助山姆解答这个问题吗？

解释你如何知道你的答案是正确的。

继续

38

以下所示的图由单位正方形组成。



写一个可用于确定这个图的面积加法方程式和一个乘法方程式并求解。

写出你的演算过程。

继续

39 写一个值大于 $\frac{3}{8}$ 的分数，将 3 作为分子。务必在你的答案中纳入你对分数的了解。

解释你如何知道你的答案是正确的。

继续

40

赛琳娜正在为一项赛跑比赛进行训练。上周，她分别在 3 天里每天跑 4 英里。使用符号 \times 创建一个数组，以表示赛琳娜上周总共跑了多少英里。

写出你的演算过程。

这周，赛琳娜计划跑 20 英里。如果她每天跑 4 英里，那么这周她将需要跑多少天？

写出你的演算过程。

答案 _____ 天

3年级

2022

数学测试

第2部分

2022年4月26–28日

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

Question	Type	Key	Points	Standard	Cluster
Session 1					
1	Multiple Choice	D	1	CCSS.Math.Content.3.OA.A.1	Operations and Algebraic Thinking
2	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.2b	Number and Operations - Fractions
3	Multiple Choice	B	1	CCSS.Math.Content.3.MD.C.7d	Measurement and Data
4	Multiple Choice	D	1	CCSS.Math.Content.3.MD.A.2	Measurement and Data
9	Multiple Choice	D	1	CCSS.Math.Content.3.OA.B.5	Operations and Algebraic Thinking
10	Multiple Choice	A	1	CCSS.Math.Content.3.OA.A.3	Operations and Algebraic Thinking
11	Multiple Choice	C	1	CCSS.Math.Content.3.NBT.A.3	Number and Operations in Base Ten
12	Multiple Choice	A	1	CCSS.Math.Content.3.MD.C.5b	Measurement and Data
15	Multiple Choice	A	1	CCSS.Math.Content.3.OA.A.4	Operations and Algebraic Thinking
16	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.3b	Number and Operations - Fractions
22	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.2a	Number and Operations - Fractions
Session 2					
26	Multiple Choice	B	1	CCSS.Math.Content.3.G.A.2	Geometry
27	Multiple Choice	D	1	CCSS.Math.Content.3.MD.A.2	Measurement and Data
28	Multiple Choice	C	1	CCSS.Math.Content.3.OA.A.1	Operations and Algebraic Thinking
29	Multiple Choice	D	1	CCSS.Math.Content.3.OA.D.9	Operations and Algebraic Thinking
30	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.3d	Number and Operations - Fractions
31	Multiple Choice	B	1	CCSS.Math.Content.3.OA.A.2	Operations and Algebraic Thinking
32	Multiple Choice	B	1	CCSS.Math.Content.3.MD.C.5b	Measurement and Data
33	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.3a	Number and Operations - Fractions
34	Constructed Response		2	CCSS.Math.Content.3.OA.D.8	Operations and Algebraic Thinking
35	Constructed Response		2	CCSS.Math.Content.3.MD.C.6	Measurement and Data
36	Constructed Response		2	CCSS.Math.Content.3.NBT.A.1	Number and Operations in Base Ten
37	Constructed Response		2	CCSS.Math.Content.3.OA.B.6	Operations and Algebraic Thinking
38	Constructed Response		2	CCSS.Math.Content.3.MD.C.7a	Measurement and Data
39	Constructed Response		2	CCSS.Math.Content.3.NF.A.3d	Number and Operations - Fractions
40	Constructed Response		3	CCSS.Math.Content.3.OA.A.3	Operations and Algebraic Thinking

*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.