



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.

姓名：\_\_\_\_\_



*Chinese (Traditional) Edition*

*Grade 3 2022*

*Mathematics Test*

*Session 1*

*April 26–28, 2022*

紐約州考試計劃  
數學考試  
第 1 卷

3 年級

2022 年 4 月 26 至 28 日

**RELEASED QUESTIONS**

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# 第 1 卷



## 考試建議

以下建議可協助你獲得好成績：

- 在作出選擇之前，請仔細閱讀每一試題，好好思考後再作答。
- 本次考試提供一把尺子讓你使用。考試中如需要使用，可以使用尺子。

1 格林先生購買了 4 包杯子。每包有 8 只杯子。可以使用哪個表達式確定格林先生購買的杯子數量？

A  $8 \div 4$

B  $8 - 4$

C  $8 + 4$

D  $8 \times 4$

2 以下所示的數軸上的 M 點代表哪個分數？



A  $\frac{3}{4}$

B  $\frac{2}{4}$

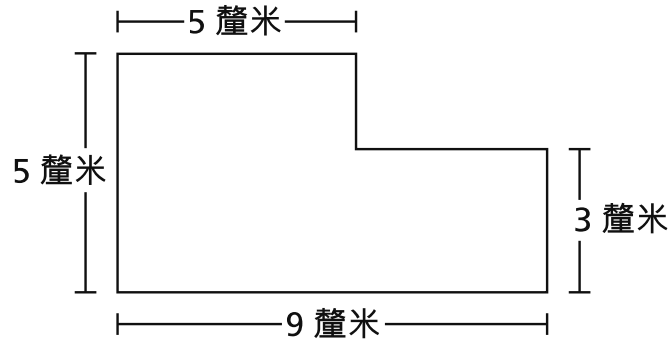
C  $\frac{3}{2}$

D  $\frac{2}{3}$

繼續

3

一名學生將兩個矩形組合成下面的形狀。



這名學生組合出的形狀的面積是多少平方釐米？

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

4

一名工人有 3 袋鵝卵石用於花園。每袋的質量為 9 千克。所有這些袋子的鵝卵石質量是多少千克？

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

繼續



9 哪個表達式等於  $5 \times 7$  ?

A  $5 + (4 + 3)$

B  $5 \times (4 \times 3)$

C  $(5 + 3) \times (5 + 4)$

D  $(5 \times 3) + (5 \times 4)$

繼續

10 紮克幫人清理庭院，每個星期賺取相同的報酬。如果紮克在 4 個星期後賺了 \$36，他每個星期賺多少錢？

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

11 請問  $7 \times 70$  的值是多少？

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

12 一名學生在一張紙上畫出一個矩形。他將其中兩條邊標記為 1 個單位，另兩條邊標記為 2 個單位。這個矩形的面積是多少？

- A 2 個平方單位
- B 4 個單位
- C 4 個平方單位
- D 6 個單位

繼續

15 哪個數字可以使以下方程式成立？

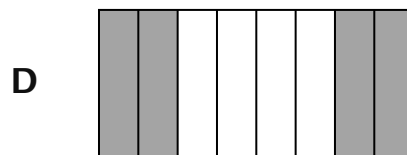
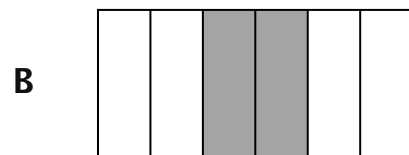
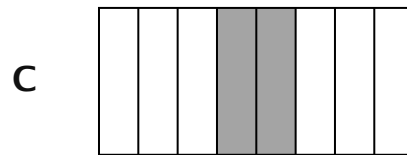
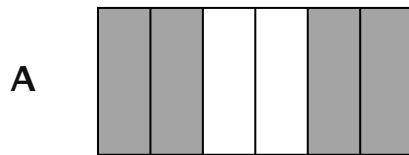
$$48 \div \underline{\quad ? \quad} = 8$$

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

16 這個模型的陰影部分代表一個分數。

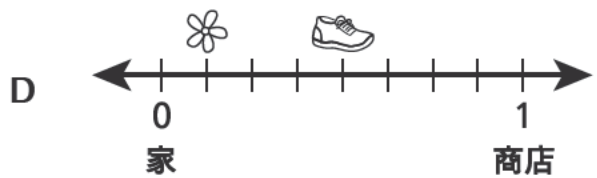
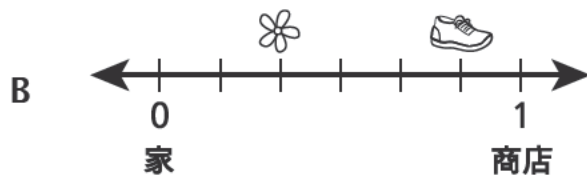
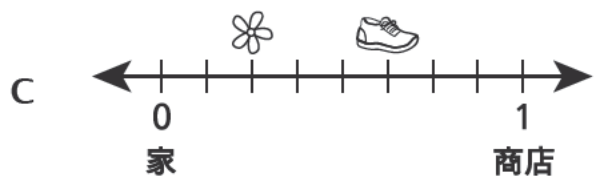
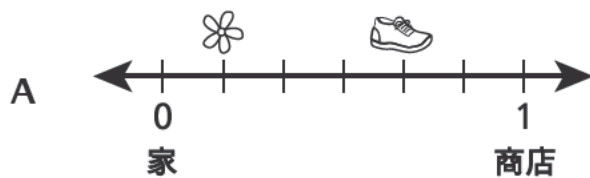


下面哪個圖形的陰影部分代表的分數等於上面的模型？



22

葛列格從他家裡到商店步行了 1 英里。步行  $\frac{2}{6}$  英里之後，他停下來聞花香。又步行了  $\frac{3}{6}$  英里之後，他停下來系鞋帶。哪個數軸正確顯示了葛列格聞花香和系鞋帶的位置？



繼續

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**3 年級**

**2022**

**數學考試**

**第 1 卷**

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*Chinese (Traditional) Edition*

*Grade 3 2022*

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*Session 2*

*April 26–28, 2022*

紐約州考試計劃  
數學考試  
第 2 卷

3 年級

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# 第 2 卷



## 考試建議

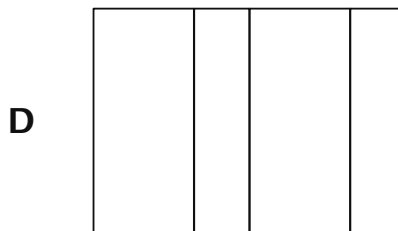
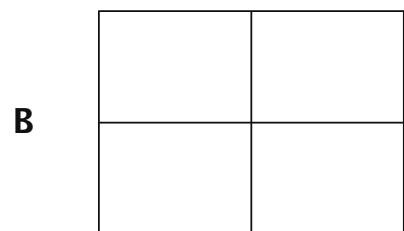
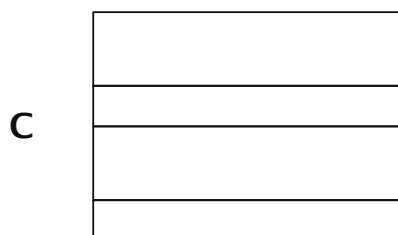
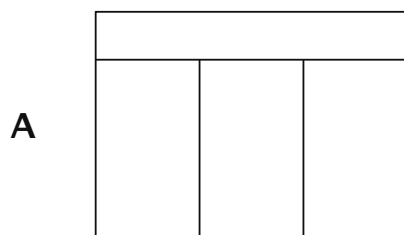
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- 本次考試提供一把尺子讓你使用。考試中如有需要使用，可以使用尺子。
- 如果有相關要求，請寫出你的計算過程。



26

哪個矩形被分為 4 個相等的部分？



27

一家寵物店有 4 個相同大小的魚缸。一名工人在每個魚缸裡放 10 升水。這名工人往所有魚缸裡一共放入了多少升水？

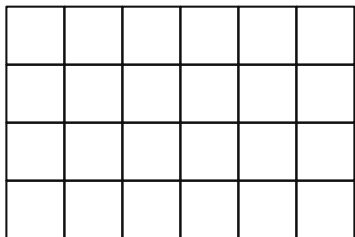
- A 4
- B 6
- C 14
- D 40

繼續

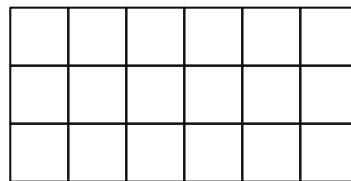
28

哪個陣列代表的是  $3 \times 6$  ?

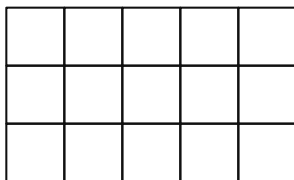
A



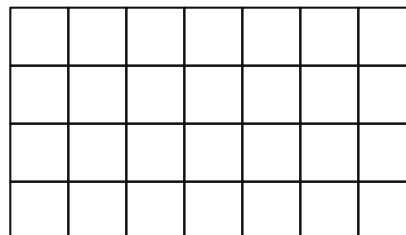
C



B



D



29

哪一個數字模式是按「加上 3」的規則遞增?

A 2, 6, 18, 48, ...

B 3, 7, 11, 15, ...

C 3, 9, 27, 54, ...

D 4, 7, 10, 13, ...

繼續

30 哪個分數小於  $\frac{1}{4}$  ?

A  $\frac{2}{4}$

B  $\frac{4}{4}$

C  $\frac{1}{3}$

D  $\frac{1}{6}$

31 米卡有 35 塊口香糖。他將所有的口香糖分給了 7 位朋友。每位朋友得到相同數量的口香糖。哪個表達式可用來確定米卡給每位朋友的口香糖數量?

A  $35 - 7$

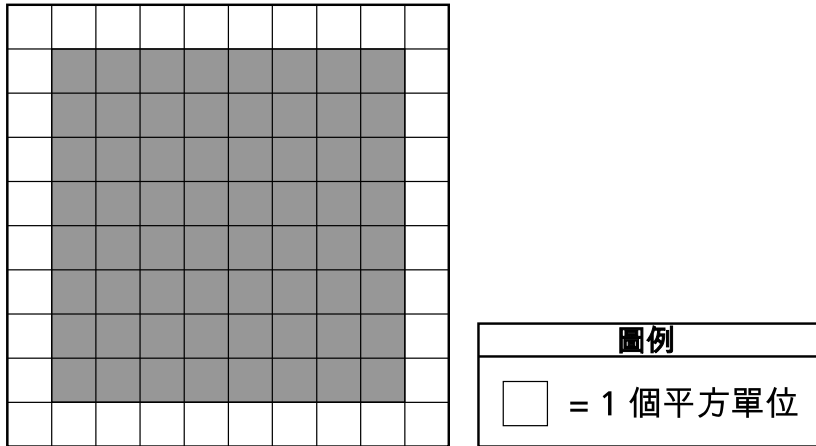
B  $35 \div 7$

C  $35 + 7$

D  $35 \times 7$

繼續

下面的圖形由單位正方形組成。有些單位正方形有陰影，有些單位正方形沒有陰影。

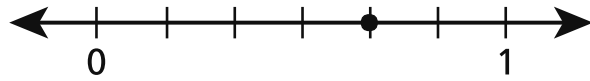


下面哪個過程可以得出圖形陰影部分的面積是多少個平方單位？

- A 數一下整個圖形中的所有單位正方形有多少個
- B 只數一下圖形中有陰影的單位正方形有多少個
- C 將整個圖形中的所有邊長相加
- D 僅將圖形中陰影部分的邊長相加

33

下面的數軸顯示了一個點。



這個點在數軸上的位置描述的是哪個等效分數？

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

繼續

34

三個班級正在參觀動物園。每個班級的學生數量如下所列。

- A 班有 24 名學生。
- B 班有 23 名學生。
- C 班有 25 名學生。

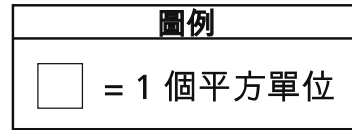
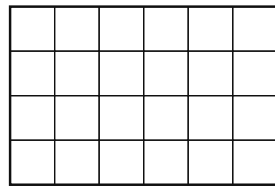
在動物園，所有學生被均分為 8 個小組。每個小組有多少名學生？

請寫出你的計算過程。

答案 \_\_\_\_\_ 名學生

35

下面顯示了一個圖形。



圖形上又增加了一行 6 個單位正方形。增加單位正方形之後，新圖形的總面積是多少？  
請寫出你的計算過程。

答案 \_\_\_\_\_ 個平方單位

繼續

36

電影院的經理需要訂購 267 個新座位。如果座位僅以 10 個一組出售，該經理至少應訂購多少個座位？

請解釋你如何確認你的答案正確。

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繼續



37

薩姆需要解答以下所示的問題。

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

他使用方程式  $63 \div 7 = \underline{\quad ? \quad}$  來求解未知數。這個過程是否可幫助薩姆得到正確答案？

請解釋你如何確認你的答案正確。

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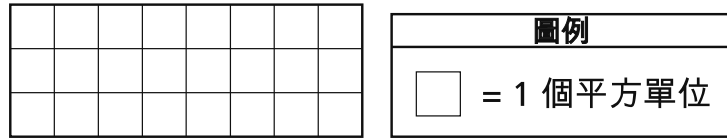
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**繼續**

38

所示圖形由單位正方形組成。



請寫出並求解一個加法方程式和一個乘法方程式，要求這兩個方程式可用來確定圖形的面積。

請寫出你的計算過程。

繼續

39

請寫出一個大於  $\frac{3}{8}$  並且以 3 為分子的分數。請務必在答案中包含你對分數的理解。

請解釋你如何確認你的答案正確。

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繼續

40

薩琳娜正在進行賽跑訓練。上個星期，她跑了 3 天，每天跑了 4 英里。請使用符號 X 寫出一個陣列來表示薩琳娜上個星期總共跑了多少英里。

請寫出你的計算過程。

這個星期，薩琳娜打算總共跑 20 英里。如果她每天跑 4 英里，那麼這個星期需要跑多少天？

請寫出你的計算過程。

答案 \_\_\_\_\_ 天

停止作答

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**3 年級**

**2022**

**數學考試**

**第 2 卷**

**2022 年 4 月 26 至 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
<b>Session 1</b>					
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
<b>Session 2</b>					
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.