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 (Traditional) Edition

Grade 5 2023

Mathematics Test

Session 1

May 2–4, 2023

紐約州測驗計劃
數學考試
第1卷

5年級

2023年5月2–4日

RELEASED QUESTIONS

第 1 卷

應考建議

以下建議可協助你充分發揮實力：

- 在作答之前，請仔細閱讀每一試題，好好思考後再作答。
- 本次考試提供數學工具（一把尺和一個量角器）和一張參考資料讓你使用。你可以自行決定何時使用各個工具和參考資料。考試當中你隨時可以使用數學工具和參考資料來協助你答題。

1 安東尼的冰箱裡有一整塊披薩餅的 $\frac{7}{8}$。他午餐時吃了一整塊披薩餅的 $\frac{3}{8}$。安東尼午餐時吃完披薩後，整個披薩還剩下幾分之幾？

A $\frac{10}{8}$

B $\frac{5}{8}$

C $\frac{4}{8}$

D $\frac{3}{8}$

2 什麼數字代表千分之九十九？

A 0.099

B 0.990

C 9.900

D 99.000

3 一個直立矩形棱柱形狀的裝運箱有一個面積為 16 平方英尺的底，高為 6 英尺。這個箱子的體積是多少立方英尺？

A 22

B 96

C 192

D 1,536

繼續

8 哪個數字的值和 32×10^4 相等？

A 3.2

B 320

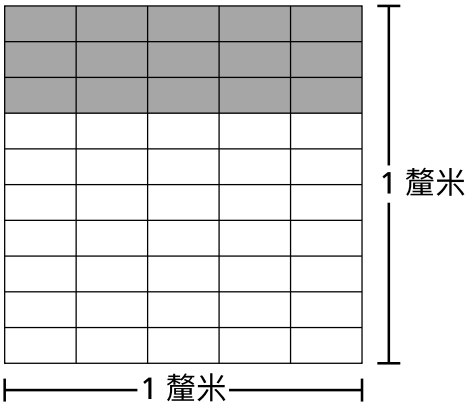
C 0.0032

D 320,000

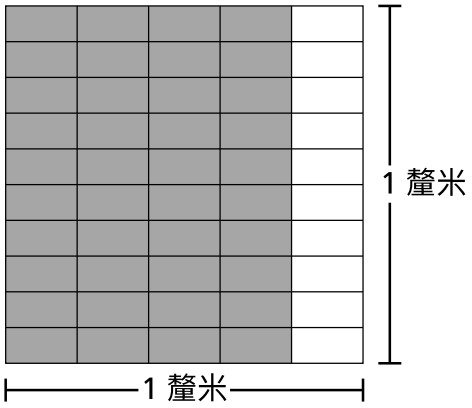
繼續

9 哪個模型用陰影表示一個長 $\frac{4}{5}$ 釐米、寬 $\frac{3}{10}$ 釐米的矩形的面積？

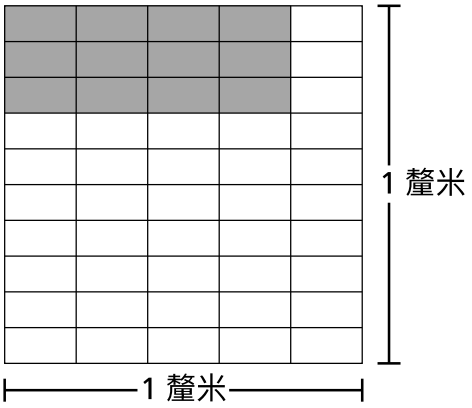
A



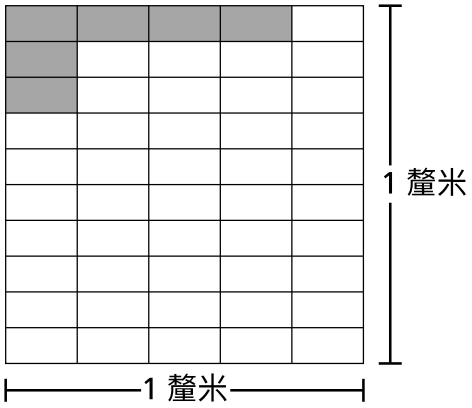
C



B



D



10 一個商場的停車場有 2,232 個停車位。每排有 24 個停車位。停車場裡有多少排車位？

A 89

B 93

C 94

D 97

11 一位教師有 20英尺的繩子要用於一個班級專案。她用完了所有的繩子，給了 8個學生同等長度的繩子。每個學生將得到多少英尺的繩子？

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

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

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

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

繼續

14 8,642 除以 10 後，十位上的數字是多少？

A 2

B 4

C 6

D 8

繼續

17 哪個表達式的值小於 $1\frac{1}{2}$ ？

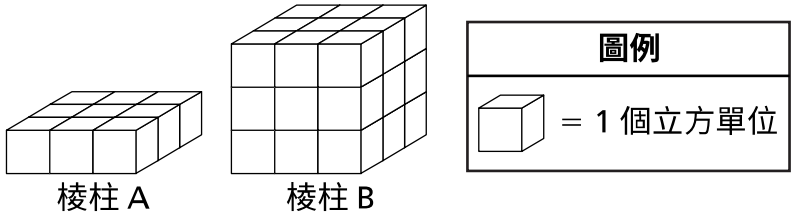
A $1\frac{1}{2} \times \frac{3}{2}$

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

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

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

18 下面是兩個直立矩形棱柱的示意圖，每個直立矩形棱柱都由單位立方體組成。



棱柱 A 和棱柱 B 的總體積是多少立方單位？

A 9

B 18

C 27

D 36

20 從星期五到星期日，一個鎮的總降雪量為 34 英寸。

- 星期五，降雪量為 11.25 英寸。
- 星期六，降雪量為 9.9 英寸。

星期日的降雪量是多少英寸？

A 12.85

B 13.15

C 20.34

D 21.15

21 多裡安走路的平均速度為每小時 $2\frac{1}{2}$ 英里。他走了 $\frac{3}{4}$ 小時。他走了多少英里？

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

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

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

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

繼續

26 羅曼女士買了 3.5 磅的鳥食。她每磅支付 $4.28。羅曼女士為所有的鳥食支付了多少錢？

A $4.28

B $7.78

C $12.84

D $14.98

繼續

29 一家商店出售成包的黑色鋼筆、藍色鋼筆和紅色鋼筆。

- 其中 $\frac{4}{9}$ 包是黑色鋼筆
- 其中 $\frac{1}{6}$ 包是藍色鋼筆

紅色鋼筆占整包的幾分之幾？

A $\frac{5}{15}$

B $\frac{7}{18}$

C $\frac{10}{15}$

D $\frac{11}{18}$

停止作答

5年級

2023

數學測驗

第 1 卷

2023年5月2–4日

Grade 5

2023

Mathematics Test

Session 1

May 2–4, 2023

姓名：_____

Chinese (Traditional) Edition

Grade 5 2023

Mathematics Test

Session 2

May 2–4, 2023

紐約州測驗計劃
數學考試
第2卷

5年級

2023年5月2–4日

RELEASED QUESTIONS

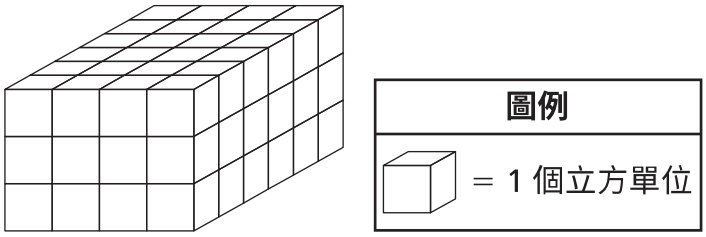
第 2 卷

應考建議

以下建議可協助你充分發揮實力：

- 在作出選擇或寫下答案之前，請仔細閱讀每一試題，好好思考後再作答。
- 本次考試提供數學工具（一把尺和一個量角器）和一張參考資料供你使用。你可以自行決定何時使用各個工具和參考資料。考試當中你隨時可以使用數學工具和參考資料來協助你題。
- 如果有相關要求，請寫出你的計算過程。

31 下面是一個由單位立方體組成的直立矩形棱柱的圖示。



直立矩形棱柱的體積是多少立方單位？

A 13

B 24

C 60

D 72

32 有 210 個蘋果被平均分配到 14 個筐子裡。每個筐內有多少個蘋果？

A 12

B 14

C 15

D 21

繼續

33 戴安在週六走了 $3\frac{3}{8}$ 英里。她週日走的路比週六少 $1\frac{5}{6}$ 英里。戴安在週日走了多少英里？

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

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

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

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

34 關於菱形和正方形的哪個說法總是正確的？

A 這兩個圖形都是平行四邊形，有四條相等的邊。

B 這兩個圖形都是平行四邊形，有四個直角。

C 這兩個圖形都是四邊形，正好都有兩個銳角。

D 這兩個圖形都是四邊形，正好都有一對平行的邊。

35 一個餐廳的廚師有 13 加侖的牛奶。這個廚師有多少夸脫牛奶？

A 17

B 26

C 42

D 52

36 **答對這道題可獲得1個積分。**

下面是用牙籤製作的四座塔的高度，單位是英寸。

- 33.1
- 33.2
- 29.3
- 33.3

寫一個數字句型，比較兩座最高的塔的高度，單位是英寸。務必在你的答案中包含符號 >、< 或 =。

答案 _____

繼續

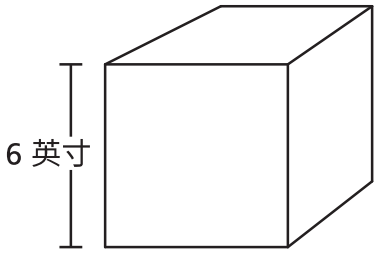
37 **答對這道題可獲得1個積分。**

安德列正在用一條 15英尺長的絲帶做一個藝術專案。他將絲帶切成等長的段，每段長度為 $\frac{1}{3}$英尺。安德列用所有的絲帶一共剪了多少條絲帶？

答案 _____ 條

38 **答對這道題可獲得1個積分。**

下圖所示的立方體的體積是多少立方英寸？



答案 _____ 立方英寸

繼續

39 **答對這道題可獲得2個積分。**

約西亞總共做了 195 盎司的檸檬水。他把檸檬水倒進 16 盎司的瓶子裡，直到每瓶都裝滿。約西亞能完全裝滿檸檬水的瓶子的最大數量是多少？

請寫出你的計算過程。

答案 _____ 瓶

40 **答對這道題可獲得2個積分。**

下面是一個乘法問題。

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

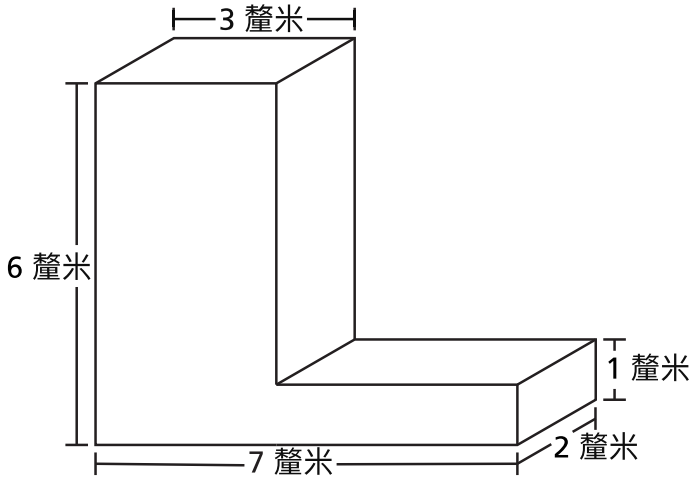
一名學生說乘積將大於 42。這名學生說得對嗎？解釋一下，請勿計算乘積。

請解釋你如何確認你的答案正確。

繼續

41 **答對這道題可獲得2個積分。**

下面是一個 3 維圖形的圖示。



這個圖形的體積是多少立方釐米？

請寫出你的計算過程。

答案 _____ 立方釐米

42 **答對這道題可獲得2個積分。**

如下所示，一個學生用展開式寫出了 67.203。

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

該學生犯了一個錯誤。該學生在哪裡犯了錯誤？作為答案的一部分，請以正確的展開式寫出該數字。

請解釋你的答案。

繼續

43 **答對這道題可獲得2個積分。**

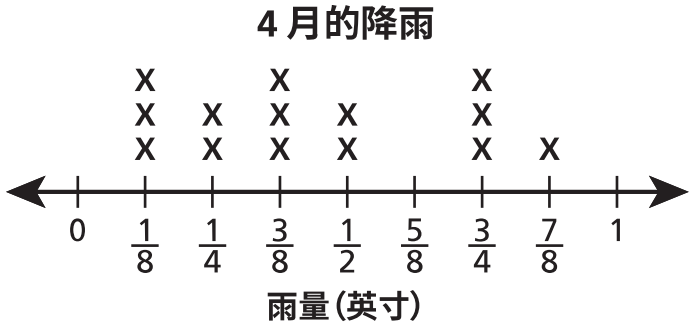
亞當開啟一個 $\frac{1}{2}$ 磅重的金槍魚罐頭。他用所有的金槍魚來餵他的貓。他把等量的金槍魚放在 4個容器裡餵貓。每個容器裡有多少磅金槍魚？

請寫出你的計算過程。

答案 _____ 磅

44 **答對這道題可獲得3個積分。**

下面的線圖顯示了某城市在 4 月份的降雨量。



4 月份記錄的總雨量是多少英寸？

請寫出你的計算過程。

答案 _____ 英寸

8 月期間，該市的總降雨量為 $8\frac{1}{4}$ 英寸。8 月和 4 月的總降雨量相差多少英寸？

請寫出你的計算過程。

答案 _____ 英寸

停止作答

5年級

2023

數學測驗

第 2 卷

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.