New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

New York State Testing Program
Grade 4
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 4 2023

Mathematics Test

Session 1

May 2–4, 2023

紐約州測驗計劃
數學考試
第1卷

4年級

2023年5月2–4日

RELEASED QUESTIONS

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，認真思考後再作答。
- 本次考試提供數學工具讓你使用（一把尺子和一個量角器）。你可以自行決定使用各個工具的時機。考試當中只要你覺得使用數學工具能協助你解答就可以使用。

1 哪個值等於 $700{,}000 + 5{,}000 + 200 + 10 + 9$？

A 705,209

B 705,219

C 750,209

D 750,219

2 珍在跑道上跑了 8 圈。卡羅爾跑的圈數是珍的 2 倍。哪個方程式可用於確定卡羅爾跑的圈數？

A $8 \div 2 = \underline{\ ?\ }$

B $8 - 2 = \underline{\ ?\ }$

C $8 + 2 = \underline{\ ?\ }$

D $8 \times 2 = \underline{\ ?\ }$

繼續

5 432 和 6 的乘積是多少？

A 2,482

B 2,492

C 2,582

D 2,592

6 關於銳角三角形，哪個陳述是正確的？

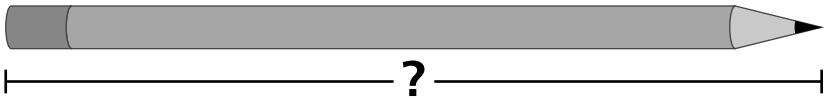
A 它有一個正好是 90 度的角。

B 它有一個大於 90 度的角。

C 它有若干個均小於 90 度的角。

D 它有若干個均大於 90 度的角。

9 以下顯示了一支鉛筆。



鉛筆的長度是多少英寸？

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

B $4\frac{1}{2}$

C $5\frac{1}{4}$

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

10 哪個帶分數等於 $\frac{13}{3}$？

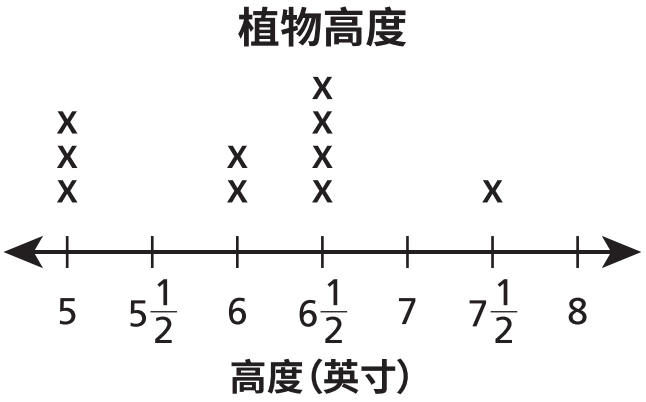
A $3\frac{1}{3}$

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

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

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

13 下面所示的線圖代表了十種不同植物的高度。



最高的植物和最矮的植物之一之間的高度差是多少英寸？

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

B 3

C 4

D $6\frac{1}{2}$

17 下面顯示的數字模式的規律是什麼？

64, 32, 16, 8, . . .

A 減 8

B 除以 2

C 除以 8

D 乘以 2

19 以下所示的方程式中遺失了什麼值？

$$\underline{\quad ? \quad} \times \frac{3}{6} = 15 \times \frac{1}{6}$$

A 3

B 5

C 12

D 18

20 蒂芙尼的紅蘋果數量是她的綠蘋果數量的 5 倍。如果她有 20 個紅蘋果，那麼她有多少個綠蘋果？

A 4

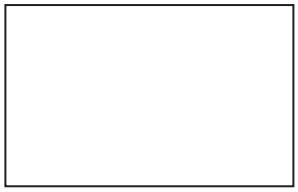
B 15

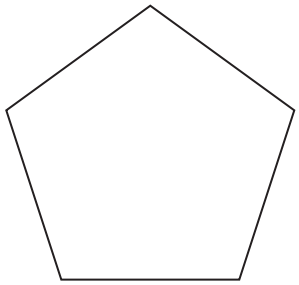
C 25

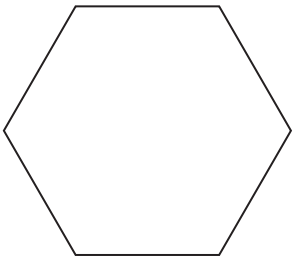
D 100

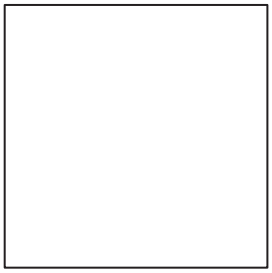
繼續

23 哪個圖形看起來正好有兩條對稱軸？

A 

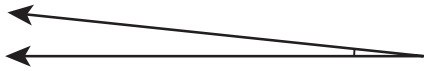
C 

B 

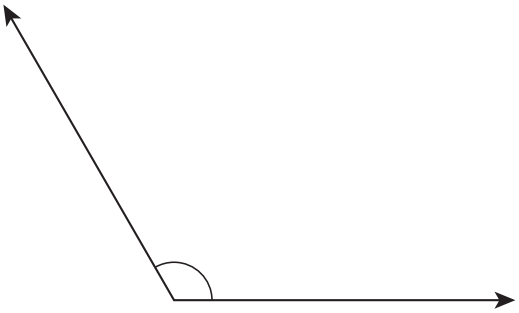
D 

25 哪個角的測量值為 60°？

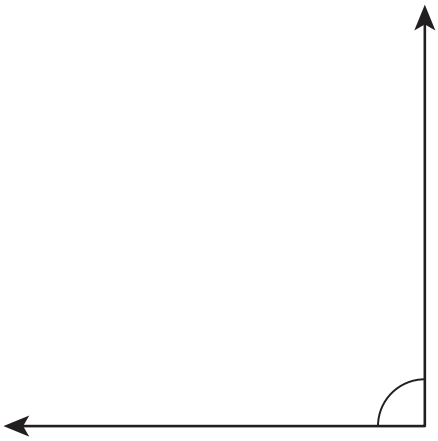
A



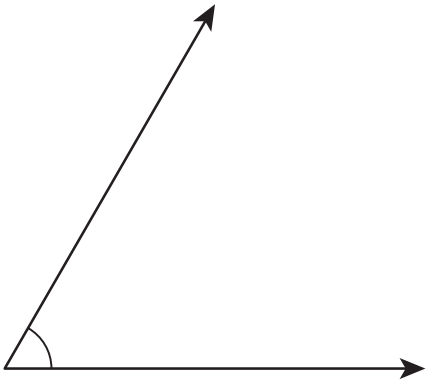
C



B

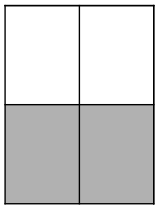


D



繼續

29 以下所示模型中的陰影部分代表整個模型的一部分。



哪個分數相當於模型中陰影部分所代表的數值？

A $\frac{4}{2}$

B $\frac{2}{1}$

C $\frac{1}{2}$

D $\frac{1}{4}$

30 7,225 ÷ 6 的值是多少？

A 1,204

B 1,204 r1

C 1,205

D 1,205 r1

停止作答

4年級

2023

數學測驗

第 1 卷

2023年5月2–4日

Grade 4

2023

Mathematics Test

Session 1

May 2–4, 2023

姓名：_____

Chinese (Traditional) Edition

Grade 4 2023

Mathematics Test

Session 2

May 2–4, 2023

紐約州測驗計劃
數學考試
第2卷

4年級

2023年5月2–4日

RELEASED QUESTIONS

第 2 卷

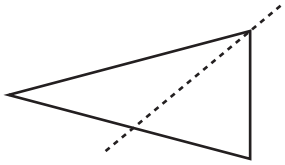
考試建議

以下建議可協助你獲得好成績：

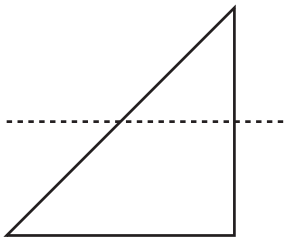
- 在作出選擇或寫下答案之前，請仔細閱讀每一試題，好好思考後再作答。
- 本次考試提供數學工具讓你使用（一把尺子和一個量角器）。你可以自行決定使用各個工具的時機。考試當中只要你覺得使用數學工具能協助你解答就可以使用。
- 如果有相關要求，請寫出你的計算過程。

31 在哪個三角形中，虛線看起來是一條對稱軸？

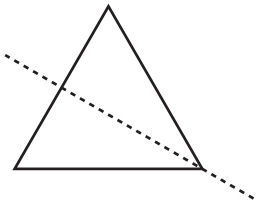
A



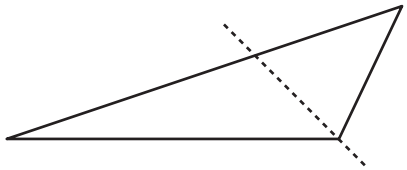
C



B



D



32 以下哪個比較是正確的？

A $\frac{1}{4} < \frac{2}{8}$

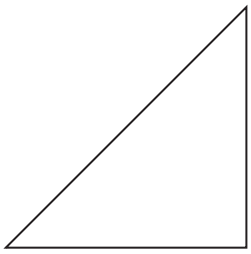
B $\frac{1}{3} > \frac{3}{6}$

C $\frac{3}{6} = \frac{5}{8}$

D $\frac{2}{3} = \frac{4}{6}$

繼續

33 關於下圖，哪個陳述是正確的？



A 它看起來都是銳角。

B 它看起來都有鈍角。

C 它看起來有兩條平行的邊。

D 它看起來有兩條垂直的邊。

34 蒂姆有 3 包記號筆。每包有 12 支記號筆。可以用哪個方程式來求出蒂姆擁有的記號筆的總數 n？

A $12 \times n = 3$

B $3 \times 12 = n$

C $3 \div n = 12$

D $12 \div 3 = n$

35 24×11 的值是多少？

A 35

B 48

C 264

D 364

36 **這道題值 1 個學分。**

羅茜茜將 $1\frac{3}{4}$ 加侖的蔓越莓汁和 $\frac{3}{4}$ 加侖的蘋果汁混合在一起，製成果汁。羅茜茜用蔓越莓汁和蘋果汁製作了多少加侖的果汁？

答案 _____ 加侖

繼續

37 **這道題值 1 個學分。**

88,678 這個數字四捨五入到最接近的千後是多少？

答案 _____

38 **這道題值 1 個學分。**

一個完整的圓裡有多少個一度的角？

答案 _____ 個一度角

繼續

39 **這道題值 2 個學分。**

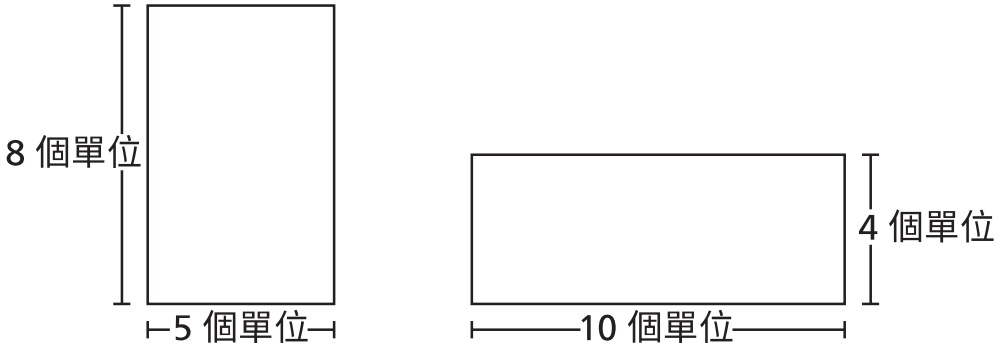
下圖中哪些四邊形看起來是矩形？請確保在你的答案中包括你對角和邊的理解。

請解釋你如何確認你的答案正確。

繼續

40 **這道題值 2 個學分。**

一名學生畫出了如下所示的兩個矩形。



矩形 A **矩形 B**

該學生認為這兩個矩形的面積相同，但周長不同。這名學生說得對嗎？請確保在你的答案中包括兩個圖形的面積和周長。

請解釋你的答案。

41 **這道題值 2 個學分。**

什麼分數可以加到下面的表達式中，使其成為一個整體的總值？

$$\frac{2}{12} + \frac{7}{12}$$

請寫出你的計算過程。

答案 _____

42 **這道題值 2 個學分。**

史黛絲玩了兩次相同的遊戲。她在第二次遊戲中得到 36 分，這個得分是她在第一次遊戲中得分的 4 倍。史黛絲在第一次遊戲中得了多少分？

請解釋你如何確認你的答案正確。

繼續

43 **這道題值 2 個學分。**

倫納德女士有 $110，去商店買幾瓶工藝顏料。每瓶售價 $9。倫納德女士用她的錢最多能買多少瓶工藝顏料？

請寫出你的計算過程。

答案 _____ 瓶

44 **這道題值 3 個學分。**

本森先生正在根據以下資訊製作漢堡包。

- 他有 4 磅肉。
- 他在每個漢堡中使用 $\frac{1}{4}$ 磅肉。
- 他做了 9 個漢堡。

本森先生做完所有的漢堡後，還剩下多少磅肉？

請解釋你是怎樣確定自己的答案的。

停止作答

4年級

2023

數學測驗

第 2 卷

2023年5月2–4日

Grade 4

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 4 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	B	1	NGLS.Math.Content.NY-4.NBT.2a	Number and Operations in Base Ten		0.8446		
2	Multiple Choice	D	1	NGLS.Math.Content.NY-4.OA.1	Operations and Algebraic Thinking	NGLS.Math.Content.NY-4.OA.2	0.8901		
5	Multiple Choice	D	1	NGLS.Math.Content.NY-4.NBT.5	Number and Operations in Base Ten		0.5227		
6	Multiple Choice	C	1	NGLS.Math.Content.NY-4.G.2a	Geometry		0.7673		
9	Multiple Choice	A	1	NGLS.Math.Content.NY-3.MD.4	Measurement and Data		0.4896		
10	Multiple Choice	C	1	NGLS.Math.Content.NY-4.NF.3c	Number and Operations - Fractions	NGLS.Math.Content.NY-4.NF.3b	0.5912		
13	Multiple Choice	A	1	NGLS.Math.Content.NY-4.MD.4	Measurement and Data		0.5230		
17	Multiple Choice	B	1	NGLS.Math.Content.NY-4.OA.5	Operations and Algebraic Thinking		0.4852		
19	Multiple Choice	B	1	NGLS.Math.Content.NY-4.NF.4b	Number and Operations - Fractions		0.7625		
20	Multiple Choice	A	1	NGLS.Math.Content.NY-4.OA.2	Operations and Algebraic Thinking		0.4757		
23	Multiple Choice	A	1	NGLS.Math.Content.NY-4.G.3	Geometry		0.4949		
25	Multiple Choice	D	1	NGLS.Math.Content.NY-4.MD.6	Measurement and Data		0.7627		
29	Multiple Choice	C	1	NGLS.Math.Content.NY-4.NF.1	Number and Operations - Fractions		0.6225		
30	Multiple Choice	B	1	NGLS.Math.Content.NY-4.NBT.6	Number and Operations in Base Ten		0.6966		
Session 2									
31	Multiple Choice	B	1	NGLS.Math.Content.NY-4.G.3	Geometry		0.7753		
32	Multiple Choice	D	1	NGLS.Math.Content.NY-4.NF.2	Number and Operations - Fractions		0.6466		
33	Multiple Choice	D	1	NGLS.Math.Content.NY-4.G.1	Geometry		0.3905		
34	Multiple Choice	B	1	NGLS.Math.Content.NY-4.OA.3a	Operations and Algebraic Thinking		0.8271		
35	Multiple Choice	C	1	NGLS.Math.Content.NY-4.NBT.5	Number and Operations in Base Ten		0.8158		
36	Constructed Response		1	NGLS.Math.Content.NY-4.NF.3d	Number and Operations - Fractions			0.7396	0.7396
37	Constructed Response		1	NGLS.Math.Content.NY-4.NBT.3	Number and Operations in Base Ten			0.6004	0.6004
38	Constructed Response		1	NGLS.Math.Content.NY-4.MD.5a	Measurement and Data			0.6389	0.6389
39	Constructed Response		2	NGLS.Math.Content.NY-4.G.2c	Geometry			0.2392	0.1196
40	Constructed Response		2	NGLS.Math.Content.NY-3.MD.8b	Measurement and Data			0.4233	0.2117
41	Constructed Response		2	NGLS.Math.Content.NY-4.NF.3b	Number and Operations - Fractions			0.6407	0.3204
42	Constructed Response		2	NGLS.Math.Content.NY-4.OA.2	Operations and Algebraic Thinking			0.6132	0.3066
43	Constructed Response		2	NGLS.Math.Content.NY-4.NBT.6	Number and Operations in Base Ten			0.5910	0.2955
44	Constructed Response		3	NGLS.Math.Content.NY-4.NF.4c	Number and Operations - Fractions			0.2975	0.0992

*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.