



New York State
EDUCATION DEPARTMENT
Knowledge > Skill > Opportunity

**New York State Testing Program
Grade 5
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 5 2022

Mathematics Test

Session 1

April 26–28, 2022

紐約州考試計劃
數學考試
第 1 卷

5 年級

2022 年 4 月 26 至 28 日

RELEASED QUESTIONS

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5年級數學參考資料

換算

1英里 = 5,280英尺

1英里 = 1,760碼

1磅 = 16盎司

1噸 = 2,000磅

1杯 = 8液盎司

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1加侖 = 4夸脫

1升 = 1,000立方釐米

公式

長方體

$$V = Bh \text{ 或 } V = lwh$$

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。
- 本次考試提供數學工具（一把尺子和一個量角器）和一張參考資料讓你使用。你可以自行決定使用各個工具和參考資料的時機。考試當中只要你覺得使用數學工具和參考資料能協助你解答就可以使用。

1 吉爾有 4 張一美元的鈔票，3 個 25 分的硬幣，4 個 10 分的硬幣和 3 個 1 分的硬幣。馬克有 3 張一美元的鈔票，4 個 10 分的硬幣和 2 個 1 分的硬幣。吉爾所擁有的錢和馬克所擁有的錢相差多少？

- A \$1.01
- B \$1.76
- C \$7.85
- D \$8.60

2 請問 $6\frac{3}{5} + 3\frac{2}{3}$ 的值是多少？

- A $2\frac{14}{15}$
- B $9\frac{4}{15}$
- C $9\frac{5}{8}$
- D $10\frac{4}{15}$

3 哪個二維圖形始終是一個規則的四邊形？

- A 菱形
- B 多邊形
- C 正方形
- D 梯形

繼續

6

珍妮爾透過混合以下成分來製作混合水果汁。

- 5 品脫橙汁
- 6 杯葡萄汁
- 8 杯蘋果汁

珍妮爾製作了多少夸脫的混合水果汁？

- A 3
- B 6
- C 24
- D 96

7

沙拉正在建造一個鳥舍。她將一塊 6 英尺長的木板切割成多塊，每一塊的長度為 $\frac{1}{3}$ 英尺。

沙拉完成切割後，她將擁有多少塊木板？

- A 2
- B $6\frac{1}{3}$
- C $10\frac{1}{3}$
- D 18

繼續

13 哪個數值使得以下比較成立？

$$\underline{\quad ? \quad} < 0.6$$

- A 0.6
- B 0.7
- C 0.59
- D 0.64

14 一名學生在 1 小時 34 分鐘內完成了家庭作業。這名學生完成家庭作業用了多少分鐘？

- A 26
- B 60
- C 94
- D 134

15 請問以下所示表達式的值是多少？

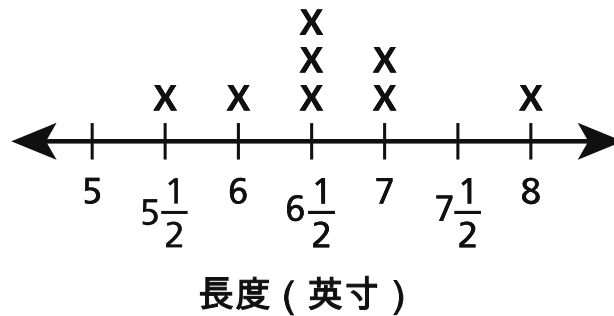
$$2,158 \div 26$$

- A 80
- B 83
- C 86
- D 89

18

托雷斯女士有一盒碎木塊。她測量了每一個碎木塊的長度，結果精確到半英寸。結果顯示在下面的數軸圖中。

碎木塊的長度



將碎木塊首尾相連後的大概長度是多少英寸？

- A $19\frac{1}{2}$
- B 33
- C $45\frac{1}{2}$
- D 53

19

哪個表達式等於 65×0.15 ？

- A $65 \times 0.1 + 0.05$
- B $65 \times 0.05 + 0.1$
- C $(65 \times 0.1) + (65 \times 0.5)$
- D $(65 \times 0.1) + (65 \times 0.05)$

繼續

20

請問以下所示表達式的值是多少？

$$14\frac{1}{3} - 6\frac{5}{8}$$

A $7\frac{1}{24}$

B $7\frac{17}{24}$

C $8\frac{7}{24}$

D $8\frac{23}{24}$

21

特裡和他的 4 位朋友均分了一瓶 12 盎司的蘋果醬。每個人得到了多少盎司的蘋果醬？

A $\frac{5}{12}$

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

C 17

D 60

繼續

22 請問 $\frac{3}{10} + \frac{27}{100}$ 的值是多少？

A $\frac{30}{10}$

B $\frac{30}{100}$

C $\frac{57}{10}$

D $\frac{57}{100}$

23 關於 $425.378 \div 10^3$ 的商，哪一項陳述是正確的？

A 小數點位於 4 的左邊。

B 小數點位於 8 的右邊。

C 小數點位於 3 和 7 之間。

D 小數點位於 4 和 2 之間。

5 年級

2022

數學考試

第 1 卷

2022 年 4 月 26 至 28 日

Grade 5

2022

Mathematics Test

Session 1

April 26–28, 2022

姓名：_____



Chinese (Traditional) Edition

Grade 5 2022

Mathematics Test

Session 2

April 26–28, 2022

紐約州考試計劃
數學考試
第 2 卷

5 年級

2022 年 4 月 26 至 28 日

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1加侖 = 4夸脫

1升 = 1,000立方釐米

公式

長方體

$$V = Bh \text{ 或 } V = lwh$$

第 2 卷



考試建議

以下建議可協助你獲得好成績：

- 在作出選擇或回答問題之前，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（一把尺子和一個量角器）和一張參考資料讓你使用。你可以自行決定使用各個工具和參考資料的時機。考試當中只要你覺得使用數學工具和參考資料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 以下所示的方程式中遺失了什麼值？

$$\frac{4}{10} + \frac{?}{100} = \frac{7}{10}$$

- A 1
- B 3
- C 10
- D 30

32 哪個表達式等於 $\frac{2}{3} \times 7$ ？

- A $2 \times 7 \div 3$
- B $2 \times 3 \div 7$
- C $7 \times 3 \div 2$
- D $7 \div 2 \times 3$

33 哪一個二維圖形始終具有 4 條相等的邊和 4 個直角？

- A 平行四邊形
- B 矩形
- C 菱形
- D 正方形

繼續

34 哪個表達式的值小於 1？

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

B $\frac{3}{4} \times \frac{6}{3}$

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

D $\frac{3}{4} \times \frac{8}{4}$

35 哪個分數的值等於 0.28？

A $\frac{28}{1}$

B $\frac{28}{10}$

C $\frac{28}{100}$

D $\frac{28}{1,000}$

36 戴維斯先生買了 4 個披薩作為家庭晚餐。他將每個披薩切成六等份。在戴維斯先生的家庭晚餐上有多等份披薩？

A 6

B 10

C 20

D 24

繼續

37 尼可拉斯早上喝了 $\frac{2}{3}$ 升水，午餐喝了 $\frac{1}{2}$ 升水。打籃球期間他又喝了 $\frac{2}{3}$ 升水。尼可拉斯一共喝了多少升水？

A $\frac{3}{5}$

B $\frac{5}{8}$

C $1\frac{1}{6}$

D $1\frac{5}{6}$

38 六百八十又千分之十四用標準格式書寫是怎樣的？

A 608.014

B 608.14

C 680.014

D 680.14

繼續

39

卡莉在一家寵物店工作。她的工作之一是在每個魚缸中添加適量的水質改善劑。下面的清單列出了魚缸數量和她使用的水質改善劑的量。

- 有 12 個魚缸需要水質改善劑。
- 每個魚缸裝了 20 夸脫的水。
- 對於每 10 加侖的水，卡莉使用 1 茶匙的水質改善劑。

對於 12 個魚缸中所有的水，卡莉總共需要使用多少茶匙的水質改善劑？

請寫出你的計算過程。

答案 _____ 茶匙

繼續

40 等邊三角形的周長是 $\frac{1}{8}$ 個單位。三角形的每一條邊的長度是多少個單位？

請寫出你的計算過程。

答案 _____ 個單位

繼續

41

在數字 714.438 中，小數點左邊的數字 4 的值與小數點右邊的數字 4 的值相比如何？

請解釋你的答案。

繼續

42

麥蒂買了 5 本筆記本和 3 支筆。每個商品的價格如下所列。

- 筆記本：每本 \$2.85
- 筆：每支 \$1.79

麥蒂用一張 \$20.00 的紙幣支付筆記本和筆的費用。麥蒂將得到的找零是多少？

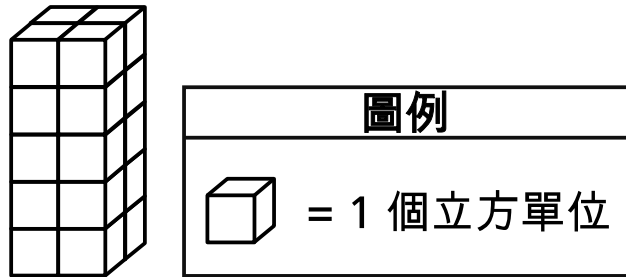
請寫出你的計算過程。

答案 \$ _____

繼續

43

柯蘭用單位立方體建造了 4 座一模一樣的塔。其中一座塔如下圖所示。



柯蘭建成的 4 座塔的總體積是多少個立方單位？

請寫出你的計算過程。

答案 _____ 個立方單位

繼續

44

薩姆的目標是在一天結束時行走 $3\frac{1}{2}$ 英里。他在午餐前行走了 $1\frac{1}{8}$ 英里，休息之後行走了 $\frac{3}{4}$ 英里。薩姆還需要行走多少英里才能實現目標？

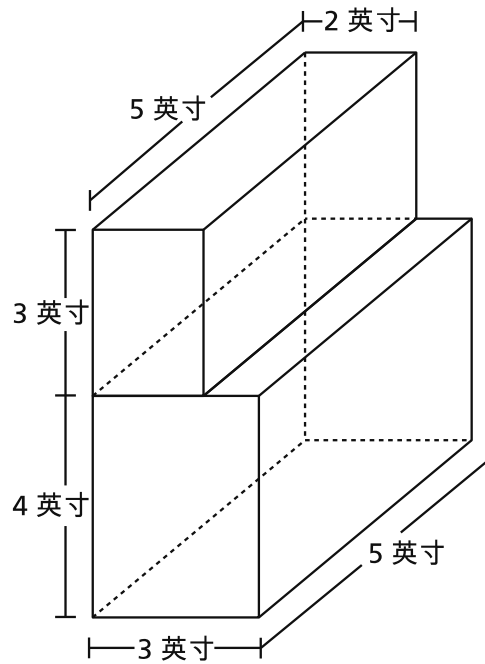
請寫出你的計算過程。

答案 _____ 英里

繼續

45

下面顯示了兩個矩形棱柱的示意圖。



解釋確定兩個棱柱的合併體積的計算過程。確保在答案中包括總體積。

答案

如果圖形頂部的棱柱高度是 4 英寸而不是 3 英寸，那麼頂部的原始棱柱和頂部的新棱柱的體積之差是多少？

請寫出你的計算過程。

答案 _____ 立方英寸

停止作答

5 年級

2022

數學考試

第 2 卷

2022 年 4 月 26 至 28 日

Grade 5

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 5

Question	Type	Key	Points	Standard	Cluster
Session 1					
1	Multiple Choice	B	1	CCSS.Math.Content.4.MD.A.2	Measurement and Data
2	Multiple Choice	D	1	CCSS.Math.Content.5.NF.A.1	Number and Operations - Fractions
3	Multiple Choice	C	1	CCSS.Math.Content.5.G.B.4	Geometry
6	Multiple Choice	B	1	CCSS.Math.Content.5.MD.A.1	Measurement and Data
7	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.7b	Number and Operations - Fractions
13	Multiple Choice	C	1	CCSS.Math.Content.4.NF.C.7	Number and Operations in Base Ten
14	Multiple Choice	C	1	CCSS.Math.Content.4.MD.A.1	Measurement and Data
15	Multiple Choice	B	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten
18	Multiple Choice	D	1	CCSS.Math.Content.5.MD.B.2	Measurement and Data
19	Multiple Choice	D	1	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten
20	Multiple Choice	B	1	CCSS.Math.Content.5.NF.A.1	Number and Operations - Fractions
21	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.3	Number and Operations - Fractions
22	Multiple Choice	D	1	CCSS.Math.Content.4.NF.C.5	Number and Operations - Fractions
23	Multiple Choice	A	1	CCSS.Math.Content.5.NBT.A.2	Number and Operations in Base Ten
Session 2					
31	Multiple Choice	D	1	CCSS.Math.Content.4.NF.C.5	Number and Operations - Fractions
32	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.4a	Number and Operations - Fractions
33	Multiple Choice	D	1	CCSS.Math.Content.5.G.B.3	Geometry
34	Multiple Choice	C	1	CCSS.Math.Content.5.NF.B.5a	Number and Operations - Fractions
35	Multiple Choice	C	1	CCSS.Math.Content.4.NF.C.6	Number and Operations in Base Ten
36	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.7b	Number and Operations - Fractions
37	Multiple Choice	D	1	CCSS.Math.Content.5.NF.A.2	Number and Operations - Fractions
38	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.A.3a	Number and Operations in Base Ten
39	Constructed Response		2	CCSS.Math.Content.5.MD.A.1	Measurement and Data
40	Constructed Response		2	CCSS.Math.Content.5.NF.B.7a	Number and Operations - Fractions
41	Constructed Response		2	CCSS.Math.Content.5.NBT.A.1	Number and Operations in Base Ten
42	Constructed Response		2	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten
43	Constructed Response		2	CCSS.Math.Content.5.MD.C.4	Measurement and Data
44	Constructed Response		2	CCSS.Math.Content.5.NF.A.2	Number and Operations - Fractions
45	Constructed Response		3	CCSS.Math.Content.5.MD.C.5c	Measurement and Data

*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.