



New York State  
**EDUCATION DEPARTMENT**  
Knowledge > Skill > Opportunity

**New York State Testing Program**  
**Grade 7**  
**Mathematics Test**  
**Chinese (Traditional)**

**Released Questions**

**2024**

New York State administered the Mathematics Tests in May 2024 and is 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 2024 Exams

#### **Background**

As in past years, SED is releasing large portions of the 2024 NYS Grades 3–8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2024, included in these released materials are at least 75 percent of the test questions that appeared on the 2024 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 7 2024*

*Mathematics Test*

*Session 1*

*Spring 2024*



**紐約州測驗計劃**

**數學考試**

**第 1 卷**


**7 年級**

**2024 年春季**

**RELEASED QUESTIONS**

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# 第 1 卷



## 應考建議

以下是一些建議，可以幫助你做到最好：

- 仔細閱讀每道題目。慢慢來，別著急。
- 你已獲得了一把尺子、一個量角器、一張參考表和一個計算器，如果它們對你答題有幫助，你可以在測試中使用。

**1**

一家商店銷售袋裝黃油。下表顯示了不同袋數的黃油的價格，單位為美元。

### 黃油的成本

袋數	3	4	7	11
成本(美元)	9.75	13.00	22.75	35.75

每袋黃油的價格是多少？

- A \$0.31
- B \$3.25
- C \$6.75
- D \$9.75

繼續

4 一位農民種植了 4 行幼苗。前 3 行長度相等。第四行的長度是 19 碼。這 4 行的總長度是 61 碼。該農民種植的前 3 行中每行的長度是多少碼？

A 14

B 22

C 39

D 42

5 全球海洋溫度的平均範圍為  $-2^{\circ}\text{C}$  至  $32^{\circ}\text{C}$ 。這兩種海洋溫度之差是多少？

A  $-34^{\circ}\text{C}$

B  $34^{\circ}\text{C}$

C  $-30^{\circ}\text{C}$

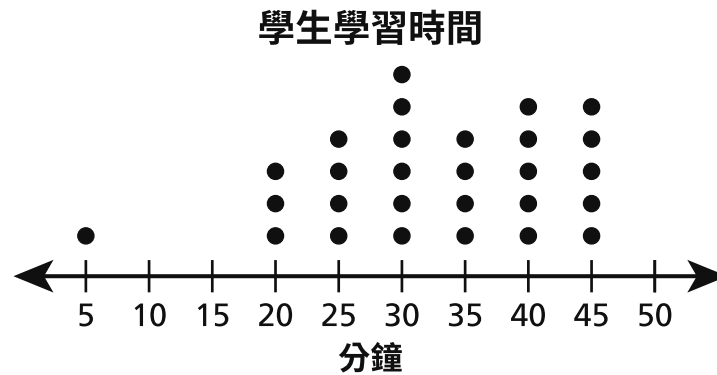
D  $30^{\circ}\text{C}$

繼續



7

摩爾先生收集了有關六年級學生為某項測試學習了多少分鐘的資料。以下點圖顯示每名學生學習的分鐘數。



關於資料分佈的陳述，哪個是正確的？

- A 該分佈是對稱的。
- B 該分佈的範圍為 25。
- C 該分佈應該有一個離群值。
- D 該分佈有一個從 25 分鐘至 35 分鐘的聚類。

**繼續**

**10**

維多利亞有一個電影訂閱。她支付了 \$24.00 的會員年費，此外她每看一部電影還要支付 \$4.00 的費用。如果維多利亞想要每年的花費少於 \$100.00，那麼可使用哪個不等式來確定她可觀看的電影總數  $m$ ？

A  $24m + 4 < 100$

B  $4m + 24 < 100$

C  $4m + 24 \leq 100$

D  $4m + 24 \geq 100$

**11**

一件襯衫的正常價格是  $n$  美元。在一次促銷期間，該襯衫的價格優惠 15%。哪一對運算式包含了表示優惠後襯衫價格（美元）的兩種正確方式？

A  $n - 0.15$  和  $0.85$

B  $n - 0.15n$  和  $0.85$

C  $n - 15.00$  和  $85.00$

D  $n - 0.15n$  和  $0.85n$

繼續

13 哪個表達式等於  $3.6(x - 5) + 2.5(x + 4)$  ？

A  $6.1x - 1$

B  $6.1x - 8$

C  $1.1x - 1$

D  $1.1x - 8$

14 一位教師記錄她班上學生的測試分數。結果顯示在以下箱線圖中。



根據這些資料，四分位數間距是多少？

A 3

B 8

C 11

D 21

繼續

15

以下所示運算式的值是多少？

$$\frac{1}{3} - \left(\frac{2}{3} + \frac{5}{7}\right) - 2\frac{1}{5}$$

A  $-\frac{1}{15}$

B  $-\frac{11}{15}$

C  $-1\frac{16}{105}$

D  $-3\frac{26}{105}$

17

某個電影院上映了兩部電影。第一部電影售出的總票數為 150 張，第二部電影售出的票數比第一部電影多 40%。如果每張票賣 \$13.50，那麼這兩部電影的總售票金額是多少美元？

A \$2,565.00

B \$2,835.00

C \$4,590.00

D \$4,860.00

**繼續**

**21**

下表表示  $x$  與  $y$  的比例關係。

$x$	$y$
9	2.25
13	3.25
17	4.25
21	5.25

請問以下哪個方程式代表這個比例關係？

**A**  $y = x$

**B**  $y = 4x$

**C**  $y = \frac{1}{4}x$

**D**  $y = \frac{9}{4}x$

**繼續**

26 派特使用  $2\frac{5}{8}$  杯糖製作了  $3\frac{1}{2}$  批餅乾。她對每批烘焙的餅乾均使用相同數量的糖。派特烘焙每批餅乾使用多少杯糖？

A  $\frac{3}{4}$

B  $\frac{7}{8}$

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

D  $6\frac{1}{8}$

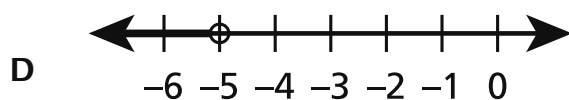
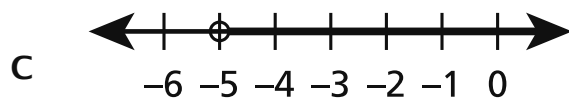
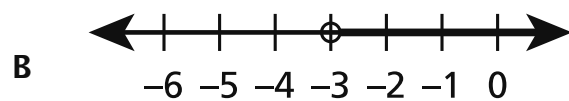
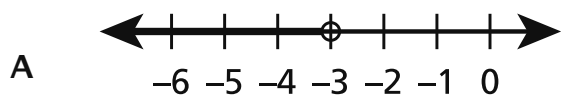
29

七年級的一個班級透過銷售禮品卡來為學校圖書館籌款。每張禮品卡的售價為 \$15.00。每售出一張禮品卡，圖書館便可獲得所得收入的 35%。如果該班級售出 500 張禮品卡，那麼圖書館可獲得多少錢？

- A \$1,167.00
- B \$1,429.00
- C \$2,625.00
- D \$4,875.00

繼續

30 哪個圖表示不等式  $4 - 4x > 16$  ?



31 以下所示運算式的值是多少？

$$-1\frac{1}{2} + \left(-\frac{7}{8}\right)\left(-\frac{3}{4}\right)$$

A  $-\frac{75}{64}$

B  $-\frac{27}{32}$

C  $-2\frac{5}{32}$

D  $-3\frac{1}{8}$

繼續



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**7年級**  
**數學測驗**  
**第 1 卷**  
**2024 年春季**

**Grade 7**  
**Mathematics Test**  
**Session 1**  
**Spring 2024**

姓名: \_\_\_\_\_



*Chinese (Traditional) Edition*

*Grade 7 2024*

*Mathematics Test*

*Session 2*

*Spring 2024*

**紐約州測驗計劃**

**數學考試**

**第 2 卷**

**7 年級**

**2024 年春季**

**RELEASED QUESTIONS**

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# 第 2 卷



## 應考建議

以下是一些建議，可以幫助你做到最好：

- 仔細閱讀每道題目。慢慢來，別著急。
- 你已獲得了一把尺子、一個量角器、一張參考表和一個計算器，如果它們對你答題有幫助，你可以在測試中使用。
- 如果有相關要求，請寫出你的計算過程。
- 如果有相關要求，回答時務必解釋你的答案。

**33** 請問以下哪種情況會導致最終值為零？

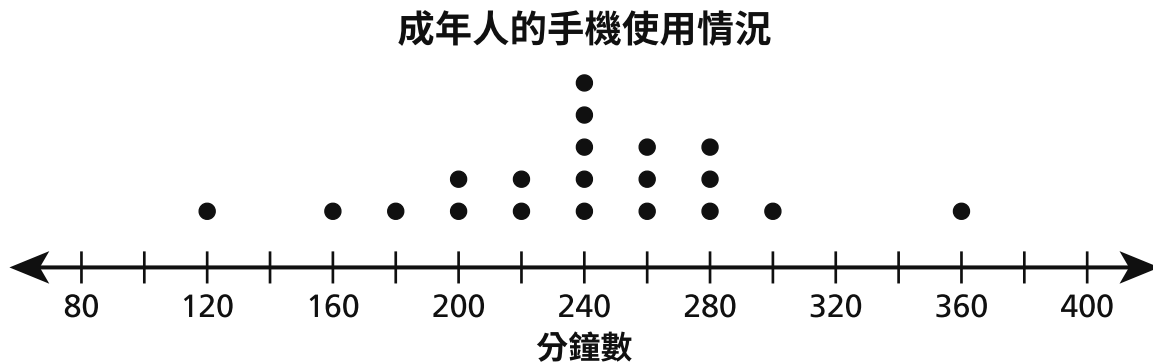
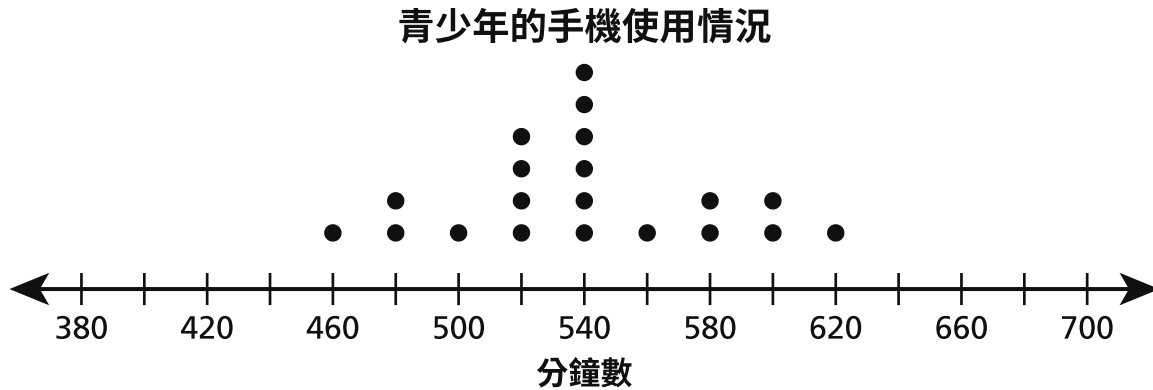
- A 如果亞倫有 12 支鉛筆，然後又買了 12 支鉛筆，他擁有的鉛筆總數。
- B 湯姆向北走了 6 個街區，向西走了 6 個街區後，他走過的街區總數。
- C 尼科爾從海平面以下 10 英尺深的地方徒步走到海平面以上 10 英尺高的地方後，他徒步行走的總距離。
- D 如果蒂芙尼購買了 4 批餅乾，然後售出了 4 批餅乾，她擁有的餅乾總數。

**34** 謝麗爾做  $2\frac{1}{2}$  小時的保姆，賺取 \$23.75。按照這個費率，當謝麗爾做  $5\frac{3}{4}$  小時的保姆時可賺取多少錢？

- A \$50.73
- B \$54.63
- C \$68.31
- D \$78.38

**繼續**

以下顯示了兩個折線圖。第一個表示 20 名青少年每天使用手機的平均分鐘數。第二個表示 20 名成年人每天使用手機的平均分鐘數。



關於這兩個資料集，哪個陳述是正確的？

- A 成年人資料的平均值大於青少年資料的平均值，因為成年人的資料點分佈更廣。
- B 青少年資料的平均值大於成年人資料的平均值，因為青少年的比例尺數字比成年人的比例尺數字更大。
- C 青少年資料的範圍大於成年人資料的範圍，因為青少年的資料點是聚類的。
- D 青少年資料的範圍大於成年人資料的範圍，因為青少年的比例尺數字比成年人的比例尺數字更大。

**36**

某所學校招收了 140 名學生。

- 在該學校招收的這些學生中，有  $\frac{3}{4}$  人參加體育運動。
- 在參加體育運動的學生中，有  $\frac{1}{7}$  人參加美術社團。

該學校招收的學生中有多少人既參加體育運動又參加美術社團？

- A 5
- B 15
- C 60
- D 125

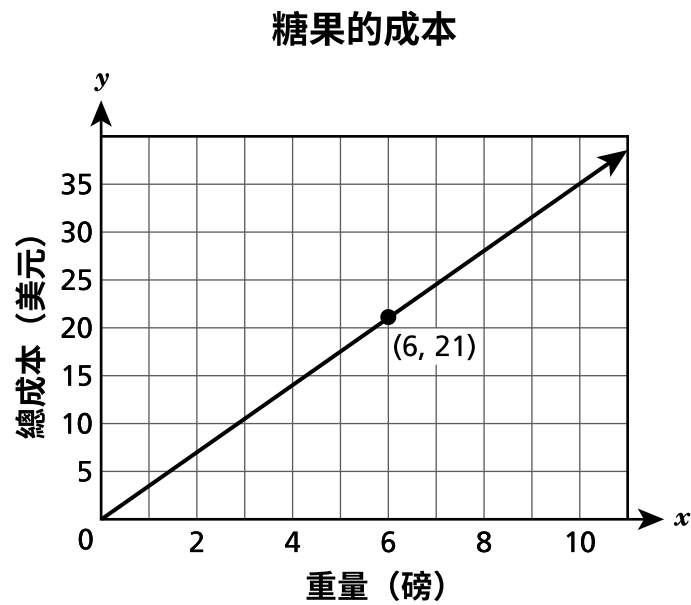
**37**

哪個運算式等於  $17\left(\frac{1}{3}\right)x - \frac{7}{2}x$ ？

- A  $\frac{83x}{6}$
- B  $\frac{55x}{6}$
- C  $\frac{13x}{6}$
- D  $\frac{10x}{6}$

繼續

某家商店按磅購買糖果。下圖表示糖果的重量（磅）與總價格（美元）之間的關係。



一磅糖果的價格是多少？

- A \$0.29
- B \$3.33
- C \$3.50
- D \$5.00



39

答對這道題可獲得 1 個積分。

馬蒂打字의 平均鍵入速度為每分鐘 25 個字。寫一個方程式，該方程式可用於確定馬蒂在  $t$  分鐘內鍵入的平均字數  $w$ 。

答案 方程式\_\_\_\_\_

繼續

40

答對這道題可獲得 1 個積分。

運算式  $-2(-3)(4)$  的值是多少？

答案 \_\_\_\_\_

繼續

41

答對這道題可獲得 1 個積分。

肯尼斯買了一件襯衫，原價為 \$55.00。打折後，他支付了 \$38.50。這件襯衫在原價基礎上優惠了百分之多少？

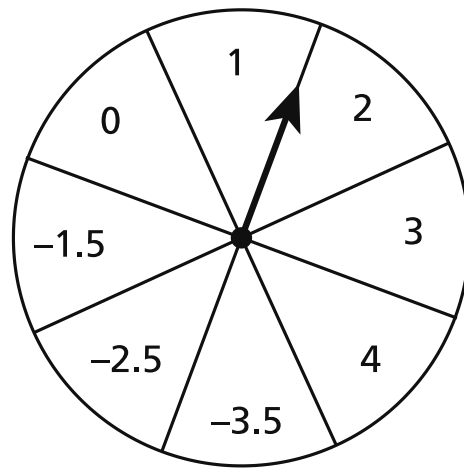
答案 \_\_\_\_\_ %

繼續

42

答對這道題可獲得 2 個積分。

弗蘭克和他的朋友們正在用以下所示的轉盤玩遊戲。



每個玩家將箭頭旋轉 5 次，然後將轉盤落在的所有數字相加，得到各自的分數。以下列出了弗蘭克的前三次旋轉結果。

-1.5、2 和 -3.5

弗蘭克還能轉兩次。轉盤需要落在哪兩個數字上才能使弗蘭克的最終得分等於 0？

請解釋你的答案。

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繼續

43

答對這道題可獲得 2 個積分。

喬安去進行了一次徒步旅行。她徒步行走的小路為  $5\frac{1}{2}$  英里，她花了  $2\frac{1}{5}$  小時走完。如果喬安以平均單位比率徒步行走，那麼她徒步行走的速度為每小時多少英里？

請寫出你的計算過程。

答案 \_\_\_\_\_ 英里/小時

繼續

44

答對這道題可獲得 2 個積分。

某張地圖的比例為 1 釐米 = 50 英里。紐約市與華盛頓特區之間的實際距離為 225 英里。在該地圖上這兩個城市之間的距離是多少釐米？

請寫出你的計算過程。

答案 \_\_\_\_\_ 釐米

繼續

45

答對這道題可獲得 2 個積分。

午餐期間，一家三明治店的老闆售出了 2 種三明治：火雞三明治和烤牛肉三明治。每個三明治的價格均為 \$4.99，從售出的所有三明治中獲得的總銷售額為 \$219.56。售出的火雞三明治有 25 個。烤牛肉三明治售出了多少個？

請寫出你的計算過程。

答案 \_\_\_\_\_ 個烤牛肉三明治

繼續

46

答對這道題可獲得 2 個積分。

將運算式  $-8(4 - x) + 20$  寫為兩個不同類項之和。務必在你的答案中顯示使用的運算特性。

請寫出你的計算過程。

答案 \_\_\_\_\_

繼續



47

答對這道題可獲得 2 個積分。

約拿收到一張電影院禮品卡。該禮品卡可使他選擇一種類型的電影、一種零食和一種飲料。以下清單中顯示了他的選項。

- 電影：劇情片、動作片、喜劇片
- 零食：爆米花、薯條、糖果
- 飲料：水、果汁

他隨機選擇一種電影、一種零食和一種飲料。約拿選擇喜劇片、薯條和果汁的概率是多少？以分數形式寫出你的答案。

**請寫出你的計算過程。**

答案 \_\_\_\_\_

**繼續**

48

答對這道題可獲得 3 個積分。

一家傢俱店正在做沙發降價 20% 的廣告。斯科特選擇了一款折扣價為 \$460.00 的沙發。他還必須繳納 8% 的銷售稅。與沙發的原價（含稅）相比，斯科特購買這款打折沙發（含稅）將節省多少錢？

請寫出你的計算過程。

答案 \$ \_\_\_\_\_

**停止作答**

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**7年級  
數學測驗  
第 2 卷  
2024 年春季**

**Grade 7  
Mathematics Test  
Session 2  
Spring 2024**

**THE STATE EDUCATION DEPARTMENT**  
**THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234**  
**2024 Mathematics Tests Map to the Standards**  
**Grade 7**

Question	Type	Key	Points	Standard	Cluster	Subscore	Secondary Standard(s)
<b>Session 1</b>							
1	Multiple Choice	B	1	NGLS.Math.Content.NY-7.RP.2b	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
4	Multiple Choice	A	1	NGLS.Math.Content.NY-7.EE.4a	Expressions and Equations	Expressions and Equations	
5	Multiple Choice	B	1	NGLS.Math.Content.NY-7.NS.1c	The Number System	The Number System	
7	Multiple Choice	C	1	NGLS.Math.Content.NY-6.SP.2	Statistics and Probability		
10	Multiple Choice	B	1	NGLS.Math.Content.NY-7.EE.4b	Expressions and Equations	Expressions and Equations	
11	Multiple Choice	D	1	NGLS.Math.Content.NY-7.EE.2	Expressions and Equations	Expressions and Equations	
13	Multiple Choice	B	1	NGLS.Math.Content.NY-7.EE.1	Expressions and Equations	Expressions and Equations	
14	Multiple Choice	C	1	NGLS.Math.Content.NY-7.SP.1	Statistics and Probability		
15	Multiple Choice	D	1	NGLS.Math.Content.NY-7.NS.1d	The Number System	The Number System	
17	Multiple Choice	D	1	NGLS.Math.Content.NY-7.EE.3	Expressions and Equations	Expressions and Equations	
21	Multiple Choice	C	1	NGLS.Math.Content.NY-7.RP.2c	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
26	Multiple Choice	A	1	NGLS.Math.Content.NY-7.RP.1	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
29	Multiple Choice	C	1	NGLS.Math.Content.NY-7.RP.3	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
30	Multiple Choice	A	1	NGLS.Math.Content.NY-7.EE.4b	Expressions and Equations	Expressions and Equations	
31	Multiple Choice	B	1	NGLS.Math.Content.NY-7.NS.3	The Number System	The Number System	
<b>Session 2</b>							
33	Multiple Choice	D	1	NGLS.Math.Content.NY-7.NS.1a	The Number System	The Number System	
34	Multiple Choice	B	1	NGLS.Math.Content.NY-7.RP.3	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
35	Multiple Choice	B	1	NGLS.Math.Content.NY-7.SP.3	Statistics and Probability		
36	Multiple Choice	B	1	NGLS.Math.Content.NY-7.NS.3	The Number System	The Number System	
37	Multiple Choice	C	1	NGLS.Math.Content.NY-7.EE.1	Expressions and Equations	Expressions and Equations	
38	Multiple Choice	C	1	NGLS.Math.Content.NY-7.RP.2b	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
39	Constructed Response	n/a	1	NGLS.Math.Content.NY-7.RP.2c	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
40	Constructed Response	n/a	1	NGLS.Math.Content.NY-7.NS.2c	The Number System	The Number System	
41	Constructed Response	n/a	1	NGLS.Math.Content.NY-7.RP.3	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
42	Constructed Response	n/a	2	NGLS.Math.Content.NY-7.NS.1d	The Number System	The Number System	NGLS.Math.Content.NY-7.NS.1b
43	Constructed Response	n/a	2	NGLS.Math.Content.NY-7.RP.1	Ratios and Proportional Relationships	Ratios and Proportional Relationships	
44	Constructed Response	n/a	2	NGLS.Math.Content.NY-7.G.1	Geometry		
45	Constructed Response	n/a	2	NGLS.Math.Content.NY-7.EE.4a	Expressions and Equations	Expressions and Equations	
46	Constructed Response	n/a	2	NGLS.Math.Content.NY-7.EE.1	Expressions and Equations	Expressions and Equations	
47	Constructed Response	n/a	2	NGLS.Math.Content.NY-7.SP.8a	Statistics and Probability		
48	Constructed Response	n/a	3	NGLS.Math.Content.NY-7.RP.3	Ratios and Proportional Relationships	Ratios and Proportional Relationships	

\*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.