New York State
EDUCATION DEPARTMENT
Knowledge › Skill › Opportunity

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

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 (Simplified) Edition

Grade 7 2024

Mathematics Test

Session 1

Spring 2024

纽约州测试计划
数学测试
第 1 部分

7 年级

2024 年春季

RELEASED QUESTIONS

第 1 部分

参加本次考试的提示

以下是一些可以帮助你做到最好的建议：

- 仔细阅读每道题目。慢慢来，别着急。
- 你已获得一把尺子、一个量角器、一张参考表和一个计算器，如果它们对你答题有帮助，则可在测试中使用。

1 一家商店销售袋装黄油。下表显示了不同袋数的黄油的价格（美元）。

黄油的价格

袋数	3	4	7	11
价格（美元）	9.75	13.00	22.75	35.75

每袋黄油的价格是多少?

A $0.31

B $3.25

C $6.75

D $9.75

4 一位农民种植了 4 行幼苗。前 3 行长度相等。第四行的长度是 19 码。这 4 行的总长度是 61 码。该农民种植的前 3 行中每行的长度是多少码?

A 14

B 22

C 39

D 42

5 全球海洋温度的平均范围为 $-2^{\circ}\mathrm{C}$ 至 $32^{\circ}\mathrm{C}$。这两种海洋温度之差是多少?

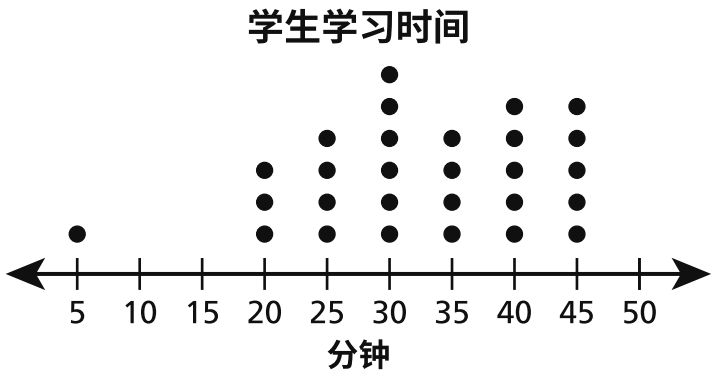
A $-34^{\circ}\mathrm{C}$

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

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

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

7 摩尔先生收集了有关六年级学生为某项测试学习了多少分钟的数据。以下点图显示每名学生学习的分钟数。



关于数据分布的陈述，哪个是正确的?

A 该分布是对称的。

B 该分布的范围为 25。

C 该分布似乎有一个离群值。

D 该分布有一个从 25 分钟至 35 分钟的聚类。

10 维多利亚有一个电影订阅。她支付了 $24.00 的会员年费，此外她每看一部电影还要支付 $4.00 的费用。如果维多利亚想要每年的花费少于 $100.00，那么可使用哪个不等式来确定她可观看的电影总数 m？

A $24m + 4 < 100$

B $4m + 24 < 100$

C $4m + 24 \leq 100$

D $4m + 24 \geq 100$

11 一件衬衫的正常价格是 n 美元。在一次促销期间，该衬衫的价格优惠 15%。哪一对表达式包含了表示优惠后衬衫价格（美元）的两种正确方式？

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 $0.85n$

13 哪个表达式等于 $3.6(x-5)+2.5(x+4)$？

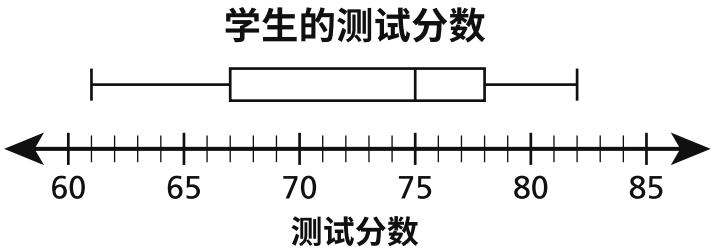
A $6.1x-1$

B $6.1x-8$

C $1.1x-1$

D $1.1x-8$

14 一位老师记录她班上学生的测试分数。结果显示在以下箱形图中。



根据这些数据，四分位数间距是多少？

A 3

B 8

C 11

D 21

15 以下所示的表达式的值是多少?

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

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

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

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

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

17 某个电影院上映了两部电影。第一部电影售出的总票数为 150 张，第二部电影售出的票数比第一部电影多 40%。如果每张票卖 $13.50，那么这两部电影的总售票金额是多少美元?

A $2,565.00

B $2,835.00

C $4,590.00

D $4,860.00

21 以下所示的表显示 x 与 y 的比例关系。

x	y
9	2.25
13	3.25
17	4.25
21	5.25

哪个方程式表示这个比例关系?

A $y = x$

B $y = 4x$

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

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

26 帕特使用 $2\frac{5}{8}$ 杯糖制作了 $3\frac{1}{2}$ 批饼干。她对每批烘焙的饼干均使用相同分量的糖。帕特烘焙每批饼干使用多少杯糖?

A $\frac{3}{4}$

B $\frac{7}{8}$

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

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

29 七年级的一个班级通过销售礼品卡来为学校图书馆筹款。每张礼品卡的售价为 $15.00。每售出一张礼品卡，图书馆便可获得所得收入的 35%。如果该班级售出 500 张礼品卡，那么图书馆可获得多少钱?

A $1,167.00

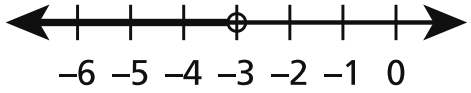
B $1,429.00

C $2,625.00

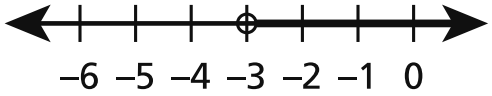
D $4,875.00

30 哪个图表示不等式 $4 - 4x > 16$？

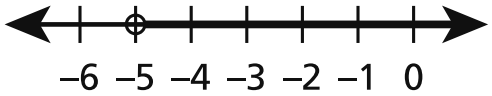
A



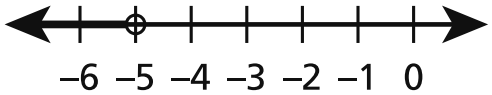
B



C



D



31 以下所示的表达式的值是多少?

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

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

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

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

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

继续

7 年级
数学测试
第 1 部分
2024 年春季

Grade 7
Mathematics Test
Session 1
Spring 2024

姓名：_____

Chinese (Simplified) Edition

Grade 7 2024

Mathematics Test

Session 2

Spring 2024

纽约州测试计划
数学测试
第 2 部分

7 年级

2024 年春季

RELEASED QUESTIONS

第 2 部分

第 2 部分

参加本次考试的提示

以下是一些可以帮助你做到最好的建议：

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- 你已获得一把尺子、一个量角器、一张参考表和一个计算器，如果它们对你答题有帮助，则可在测试中使用。
- 如果有相关要求，回答时务必写出你的演算过程。
- 如果有相关要求，回答时务必解释你的答案。

33 哪种情况会导致最终值为零?

A 如果亚伦有 12 支铅笔，然后又买了 12 支铅笔，他拥有的铅笔总数。

B 汤姆向北走了 6 个街区，向西走了 6 个街区后，他走过的街区总数。

C 尼科尔从海平面以下 10 英尺深的地方徒步走到海平面以上 10 英尺高的地方后，他徒步行走的总距离。

D 如果蒂芙尼购买了 4 批饼干，然后售出了 4 批饼干，她拥有的饼干总数。

34 谢丽尔做 $2\frac{1}{2}$ 小时的保姆，赚取 $\$23.75$。按照这个费率，当谢丽尔做 $5\frac{3}{4}$ 小时的保姆时可赚取多少钱?

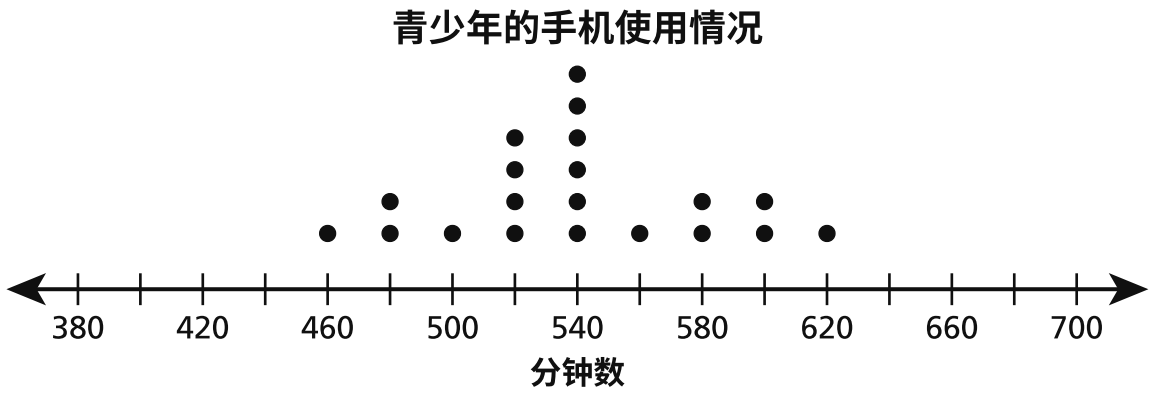
A $\$50.73$

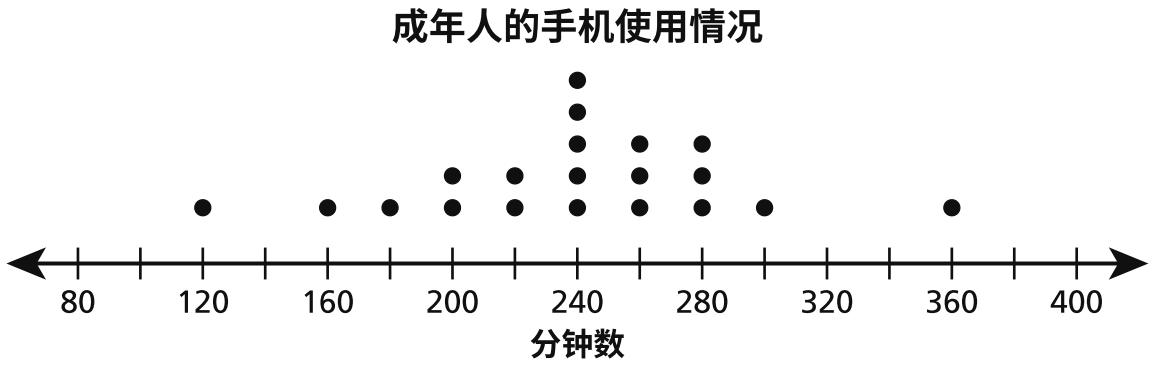
B $\$54.63$

C $\$68.31$

D $\$78.38$

35 以下显示了两个线图。第一个表示 20 名青少年每天使用手机的平均分钟数。第二个表示 20 名成年人每天使用手机的平均分钟数。





关于这两个数据集，哪个陈述是正确的?

A 成年人数据的平均值大于青少年数据的平均值，因为成年人的数据点分布更广。

B 青少年数据的平均值大于成年人数据的平均值，因为青少年的比例尺数字比成年人的比例尺数字更大。

C 青少年数据的范围大于成年人数据的范围，因为青少年的数据点是聚类的。

D 青少年数据的范围大于成年人数据的范围，因为青少年的比例尺数字比成年人的比例尺数字更大。

36 某所学校招收了 140 名学生。

- 在该学校招收的这些学生中，有 $\frac{3}{4}$ 参加体育运动。
- 在参加体育运动的学生中，有 $\frac{1}{7}$ 参加美术社团。

该学校招收的学生中有多少人既参加体育运动又参加美术社团?

A 5

B 15

C 60

D 125

37 哪个表达式等于 $17\left(\frac{1}{3}\right)x - \frac{7}{2}x$?

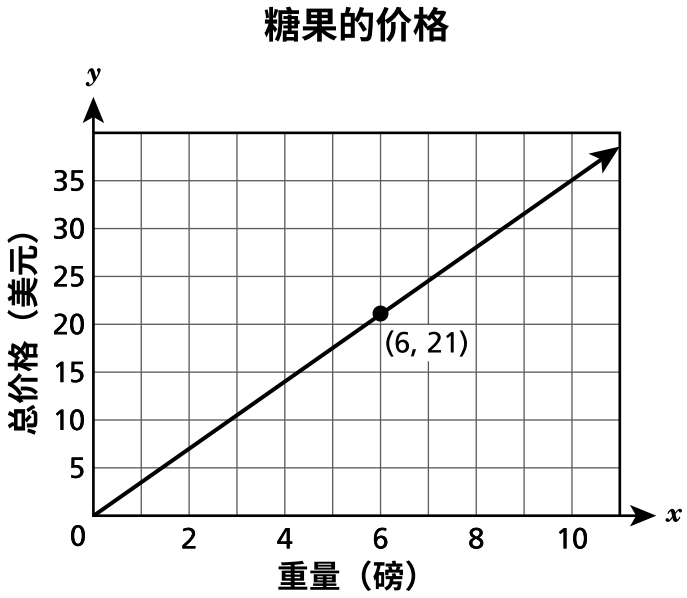
A $\frac{83x}{6}$

B $\frac{55x}{6}$

C $\frac{13x}{6}$

D $\frac{10x}{6}$

38 某家商店按磅购买糖果。下图表示糖果的重量（磅）与总价格（美元）之间的关系。



一磅糖果的价格是多少?

A $0.29

B $3.33

C $3.50

D $5.00

39 **这道题值 1 个学分。**

马蒂打字的平均键入速度为每分钟 25 个字。写一个方程式，该方程式可用于确定马蒂在 t 分钟内键入的平均字数 w。

答案 方程式 _____

继续

40 **这道题值 1 个学分。**

表达式 $-2(-3)(4)$ 的值是多少?

答案 _____

41 **这道题值 1 个学分。**

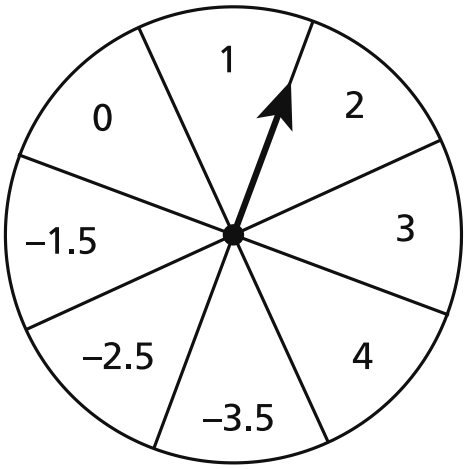
肯尼斯买了一件衬衫，原价为 $55.00。打折后，他支付了 $38.50。这件衬衫在原价基础上的折扣是百分之多少?

答案 _____ %

继续

42 **这道题值 2 个学分。**

弗兰克和他的朋友们正在用以下所示的转盘玩游戏。



每个玩家将箭头旋转 5 次，然后将转盘落在的所有数字相加得到各自的分数。以下列出了弗兰克的前三次旋转结果。

-1.5、 2和 -3.5

弗兰克还能转两次。转盘需要落在哪两个数字上才能使弗兰克的最终得分等于 0？

解释你的答案。

43 **这道题值 2 个学分。**

乔安进行了一次徒步旅行。她徒步行走的小路为 $5\frac{1}{2}$ 英里，她花了 $2\frac{1}{5}$ 小时走完。如果乔安以平均单位速度徒步行走，那么她徒步行走的速度为每小时多少英里?

写出你的演算过程。

答案 _____ 英里/小时

继续

44 **这道题值 2 个学分。**

某张地图的比例为 1 厘米 = 50 英里。纽约市与华盛顿特区之间的实际距离为 225 英里。在该地图上这两个城市之间的距离是多少厘米?

写出你的演算过程。

答案 _____ 厘米

45 **这道题值 2 个学分。**

午餐期间，一家三明治店的老板售出了 2 种三明治：火鸡三明治和烤牛肉三明治。每个三明治的价格均为 $4.99，从售出的所有三明治中获得的总销售额为 $219.56。售出的火鸡三明治有 25 个。烤牛肉三明治售出了多少个？

写出你的演算过程。

答案 _____ 个烤牛肉三明治

继续

46 **这道题值 2 个学分。**

将表达式 $-8(4-x)+20$ 写为两个不同类项之和。务必在你的答案中显示使用的运算特性。

写出你的演算过程。

答案 _____

47 **这道题值 2 个学分。**

乔纳收到一张电影院礼品卡。该礼品卡可使他选择一种类型的电影、一种零食和一种饮料。以下列表中显示了他的选项。

- 电影：剧情片、动作片、喜剧片
- 零食：爆米花、薯条、糖果
- 饮料：水、果汁

他随机选择一种电影、一种零食和一种饮料。乔纳选择喜剧片、薯条和果汁的概率是多少？以分数形式写出你的答案。

写出你的演算过程。

答案 _____

继续

48 **这道题值 3 个学分。**

一家家具店正在打广告，沙发降价 20%。斯科特选择了一款折扣价为 $460.00 的沙发。他还必须缴纳 8% 的销售税。与沙发的原价（含税）相比，斯科特购买这款打折沙发（含税）将节省多少钱？

写出你的演算过程。

答案 $ _____

停止

7 年级
数学测试
第 2 部分
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)
Session 1							
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	
Session 2							
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.