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Our Students. Their Moment.

New York State Testing Program Grade 5 Common Core Mathematics Test (Chinese)

Released Questions

June 2018

New York State administered the Mathematics Tests in May 2018 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 2018 Exams

Background

In 2013, New York State began administering tests designed to assess student performance in accordance with the instructional shifts and rigor demanded by the new New York State P-12 Learning Standards in Mathematics. To help in this transition to new assessments, the New York State Education Department (SED) has been releasing an increasing number of test questions from the tests that were administered to students across the State in the spring. This year, SED is again releasing large portions of the 2018 NYS Grades 3-8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2018, included in these released materials are at least 75 percent of the test questions that appeared on the 2018 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 of the 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 https://www.engageny.org/resource/test-guides-english-language-arts-and-mathematics.

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 future valid and reliable tests, some content must remain secure for possible use on future exams. As such, 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. Specific criteria for writing test questions, as well as additional assessment information, are available at http://www.engageny.org/common-core-assessments.

姓名 ： _____

Chinese Edition
Grade 5 2018
Mathematics Test
Session 1
May 1–3, 2018

紐約州考試計劃
數學考試
第 1 卷

5 年級

2018 年 5 月 1 至 3 日

Released Questions

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

1品脫 ＝ 2杯

1夸脫 ＝ 2品脫

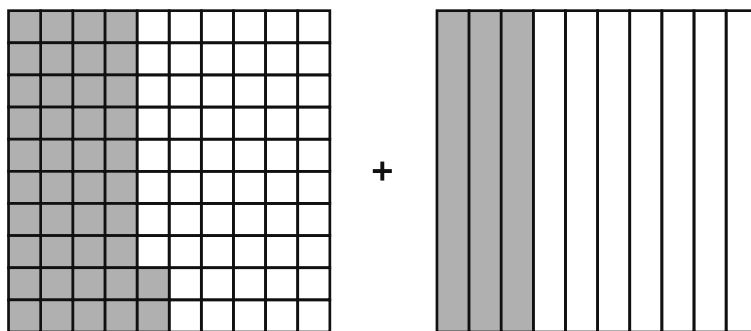1加侖 ＝ 4夸脫

1升 ＝ 1,000立方釐米

公式

長方體	$V = Bh$ 或 $V = lwh$

第 1 卷

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 史密斯先生在學校展覽了 1,104 張學生相片。他計劃將這些相片放到 48 個佈告欄中，每個佈告欄中的相片數量相同。請問史密斯先生可在每個佈告欄中放入多少張學生相片？

A   20

B   22

C   23

D   24

2 以下模型的陰影部分各代表一個分數。

請問這些分數的和是多少？

A $\dfrac{45}{110}$

B $\dfrac{65}{110}$

C $\dfrac{70}{100}$

D $\dfrac{72}{100}$
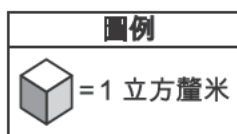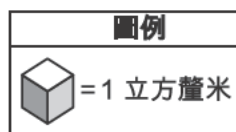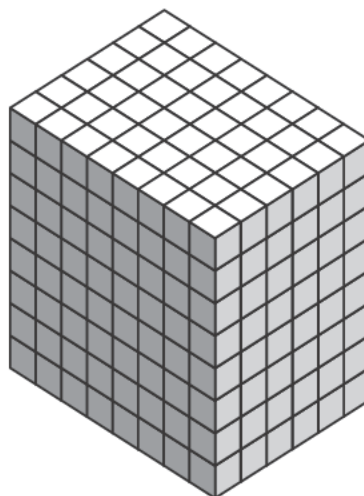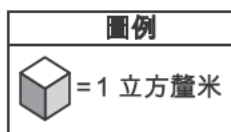
傑克用 1 釐米的正方體建造了一個體積為 24 立方釐米的直角矩形棱柱。請問哪個圖形可能代表傑克建造的棱柱？

A

圖例

=1 立方釐米
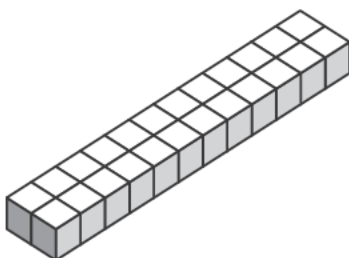
C

圖例
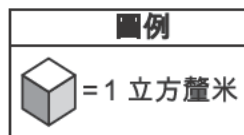
=1 立方釐米
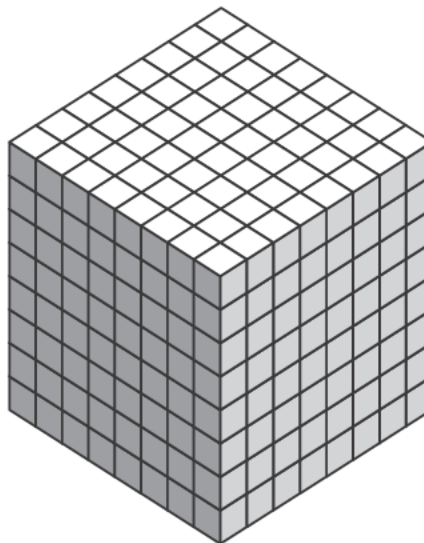
B

圖例

=1 立方釐米

D

圖例

=1 立方釐米

10 學校圖書管理員為圖書館訂購了新書。在訂購的新書中，$\frac{1}{3}$ 屬於科學，$\frac{2}{5}$ 屬於傳記，其餘書為小說。請問小說占訂購的書的幾分之幾？

A $\frac{3}{5}$

B $\frac{3}{8}$

C $\frac{4}{15}$
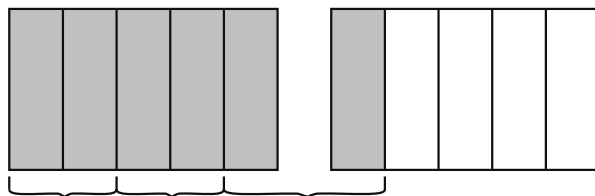
D $\frac{11}{15}$

11 以下模型用陰影來表示表達式。

請問哪個表達式可代表此模型？

A $\frac{1}{3} \times \frac{2}{5}$

B $\frac{1}{3} \times \frac{5}{2}$

C $3 \times \frac{2}{5}$

D $3 \times \frac{5}{2}$

13 請問以下哪種形狀的四條邊始終全等？

A 平行四邊形

B 矩形

C 菱形

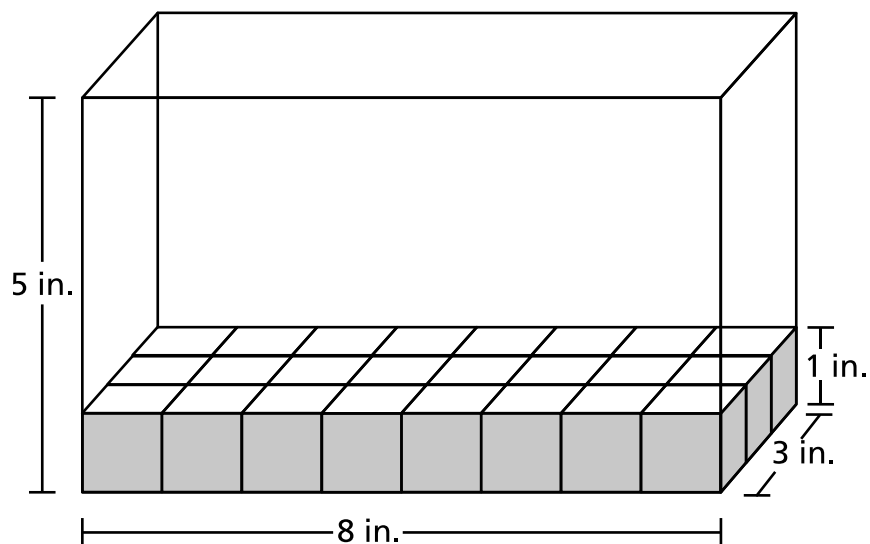**D** 梯形

14 請問哪個陳述描述的是以下表達式的值？

$$67 \times \frac{1}{6}$$

A 該值小於 67。

B 該值等於 67。

C 該值大於 67。

D 該值大於 0 且小於 1。

17 下圖顯示的是一個箱子中裝入了一些 1 英寸的正方體。

請問**還**需要放入多少個 1 英寸的正方體才能填滿該箱子？

A 16

B 24

C 96

D 120

18 請問以下哪個表達式的值大於 42.537？

A $(4 \times 10) + (2 \times 1) + \left(5 \times \dfrac{1}{10}\right) + \left(9 \times \dfrac{1}{100}\right) + \left(3 \times \dfrac{1}{1,000}\right)$

B $(4 \times 10) + (1 \times 1) + \left(6 \times \dfrac{1}{10}\right) + \left(2 \times \dfrac{1}{100}\right) + \left(5 \times \dfrac{1}{1,000}\right)$

C $(4 \times 10) + (2 \times 1) + \left(5 \times \dfrac{1}{10}\right) + \left(3 \times \dfrac{1}{100}\right) + \left(7 \times \dfrac{1}{1,000}\right)$

D $(4 \times 10) + (2 \times 1) + \left(5 \times \dfrac{1}{10}\right) + \left(1 \times \dfrac{1}{100}\right) + \left(9 \times \dfrac{1}{1,000}\right)$

24 一次州博覽會舉行南瓜重量比賽。獲勝的南瓜重達 2,050 磅。請問獲勝的南瓜重量為多少盎司？

A   8,200

B   16,400

C   24,600

D   32,800

25 請問以下哪個表達式可用來表示比 15 與 12 的乘積多 8？

A $15 \times 12 + 8$

B $(15 + 12) \times 8$

C $15 \times 12 \times 8$

D $15 \times (12 + 8)$

28 矩形棱柱中單層的體積為 18 立方釐米。此矩形棱柱有 5 層。請問這個矩形棱柱的體積是多少立方釐米？

A 90

B 23

C 13

D 3.6

29 請問表達式 $\frac{1}{4} \div 3$ 可能代表以下哪種情況？

A $\frac{1}{4}$ 盒鉛筆在三個朋友之間平分

B 三杯爆米花中包含的 $\frac{1}{4}$ 杯份量的數量

C $\frac{1}{3}$ 的體育場被分成四等份

D 一條長四英尺的繩子被切分成 $\frac{1}{3}$ 英尺的小段

30 卡利用 18 個正方體建造了一個矩形棱柱，每個正方體的邊長為 1 釐米。請問該矩形棱柱的尺寸可能是多少？

A 長：2 cm　寬：2 cm　高：3 cm

B 長：2 cm　寬：3 cm　高：3 cm

C 長：3 cm　寬：3 cm　高：3 cm

D 長：6 cm　寬：6 cm　高：6 cm

停止作答

5 年級

2018
數學考試
第 1 卷
2018 年 5 月 1 至 3 日

Grade 5

2018
Mathematics Test
Session 1
May 1–3, 2018

姓名：_____

紐約州考試計劃
數學考試
第 2 卷

5 年級

2018 年 5 月 1 至 3 日

Released Questions

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
1品脫 ＝ 2杯
1夸脫 ＝ 2品脫
1加侖 ＝ 4夸脫
1升 ＝ 1,000立方釐米

公式

長方體 $V = Bh$ 或 $V = lwh$

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 請問 4 杯中包含多少份 $\frac{1}{3}$ 杯的份量？

A $\quad \frac{1}{12}$

B $\quad \frac{3}{4}$

C $\quad 4$

D $\quad 12$

32 請問 $9\frac{2}{3} - 4\frac{1}{5}$ 的值是多少？

A $\quad 5\frac{1}{8}$

B $\quad 5\frac{7}{8}$

C $\quad 5\frac{5}{15}$

D $\quad 5\frac{7}{15}$

33 請問以下哪個小數等於 $\frac{73}{100}$？

A   0.73

B   7.30

C   73.100

D   100.73

34 請問以下模型的陰影部分可能代表哪個表達式？
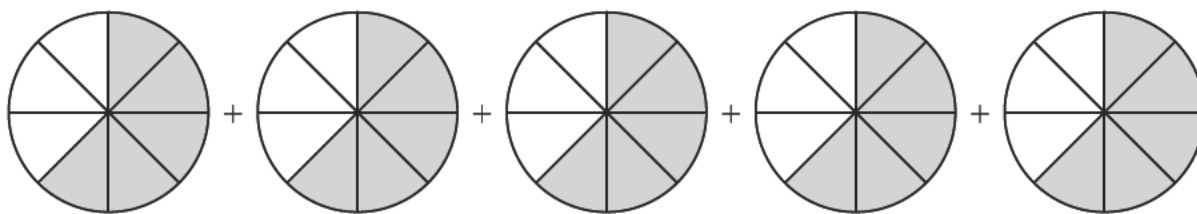
A $\frac{5}{8} + \frac{5}{5}$

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

C $\frac{5}{8} + 5$

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

35 一輛卡車上有三個箱子。每個箱子的底面面積為 **16** 平方英尺。其中兩個箱子的高度為 **3** 英尺，另一個箱子的高度為 **5** 英尺。請問這三個箱子的總體積是多少立方英尺？

    A   240

    B   176

    C   144

    D   128

36 林的目標是每天喝 **8** 杯水。今天午餐前，她喝了 **37** 盎司水。請問今天林還需要喝多少水才能實現她的目標？

    A   27 盎司

    B   29 盎司

    C   59 盎司

    D   91 盎司

37 烏蘇拉畫了一個多邊形，該多邊形的所有角均為鈍角。請問她畫的可能是哪種多邊形？

    A   梯形

    B   平行四邊形

    C   三角形

    D   五邊形

繼續

38 安娜在建造一個包含三列單位正方體的圖形。第一列如下所示。

圖例
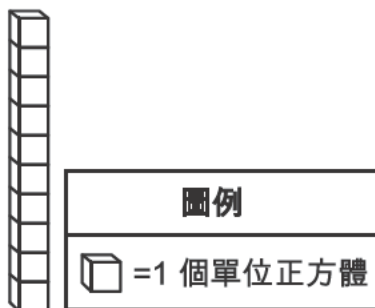
☐ =1 個單位正方體

另外兩列中，每列都比第一列少四個單位正方體。請問安娜建造的圖形的體積是多少立方單位？

A　12

B　16

C　22

D　24

39 薩曼莎用一個 2 升的水壺為 10 個朋友提供檸檬汁。如果要為每個朋友提供 400 毫升檸檬汁，請問她需要填充多少次水壺？

請寫出你的計算過程。

答案 ＿＿＿＿＿＿＿ 次

40 請寫出一個數字，使其中數字 3 的值是 156.32 中數字 3 的值的 10 倍。請解釋你如何確認自己所寫的數字是正確的。

答案

_____

_____

_____

41 馬克和朋友訂了兩個大小相同的披薩。

- 第一個披薩被切成了 **6** 等份。

- 第二個披薩被切成了 **4** 等份。

每個人打算吃 **2** 份披薩。馬克說，如果從每個披薩拿 **1** 份，而不是從第一個披薩中拿 **2** 份，那麼他可以多得一些披薩。請解釋為什麼馬克的說法是正確的。請務必在解釋中包括使用 **>** 或 **<** 的數字比較。

答案

_____

_____

_____

42 一部分矩形地板鋪滿了正方形地磚，如下所示。每個正方形地磚的邊長為 $\frac{1}{3}$ 英尺。

圖例

$\frac{1}{3}$ 英尺

$\frac{1}{3}$ 英尺
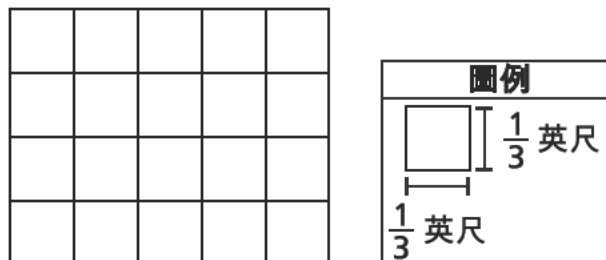
請問鋪滿地磚的矩形地板部分的面積是多少平方英尺？

請寫出你的計算過程。

答案 ＿＿＿＿＿＿＿＿ 平方英尺

以下折線圖顯示的是按重量（四捨五入到最近的 $\frac{1}{8}$ 磅）分組的葡萄袋數。

各袋葡萄的重量
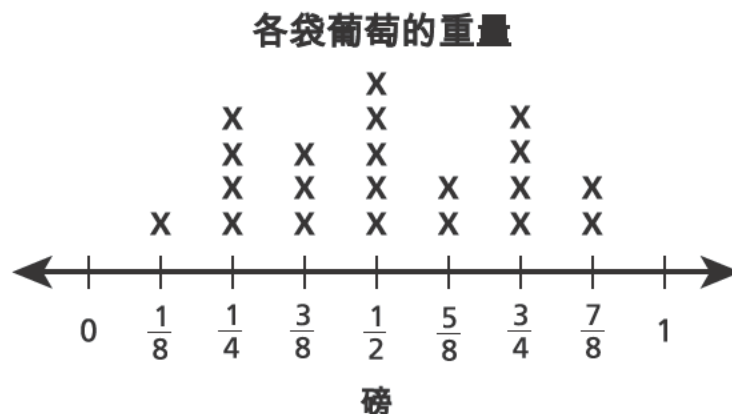
請問每袋重量為 $\frac{3}{8}$ 磅或以下的葡萄有多少袋？

答案 _____ 袋

請問重量為 $\frac{3}{8}$ 磅或以下的各袋葡萄的總重量是多少？

請寫出你的計算過程。

答案 _____ 磅

44 在米德爾頓學校節日上，一頂帳篷覆蓋的矩形空間長為 $30\frac{1}{2}$ 碼，寬為 $9\frac{1}{3}$ 碼。請問該帳篷覆蓋的面積是多少平方碼？

請寫出你的計算過程。

答案 _____ 平方碼

基婭在書展上買書。下面的小數方格用陰影部分代表她買書後剩餘的 **$1.00** 部分。
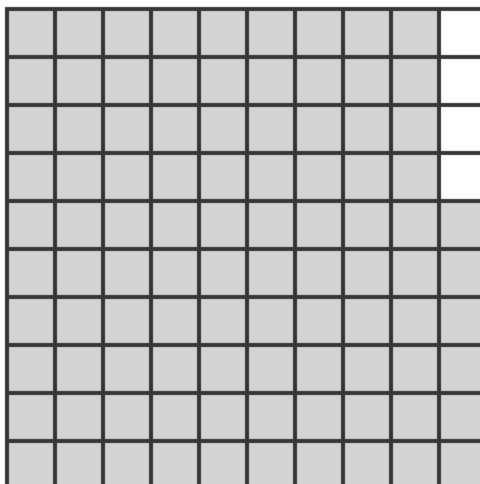
基婭決定將其剩下的所有錢送給 3 個朋友，以便他們可以購買一些書籤，每個書籤的費用為 **$0.10**。如果基婭送給每個朋友的金額相同，請問她的每個朋友最多可購買多少個書籤？

請寫出你的計算過程。

答案 _____ 個書籤/每個朋友

停止作答

5 年級

2018
數學考試
第 2 卷
2018 年 5 月 1 至 3 日

Grade 5

2018
Mathematics Test
Session 2
May 1–3, 2018

Question	Type	Key	Points	Standard	Cluster	Subscore
Session 1						
1	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten	Number and Operations in Base Ten
2	Multiple Choice	D	1	CCSS.Math.Content.4.NF.C.5	Number and Operations— Fractions	Number and Operations— Fractions
3	Multiple Choice	B	1	CCSS.Math.Content.5.MD.C.5a	Measurement and Data	Measurement and Data
10	Multiple Choice	C	1	CCSS.Math.Content.5.NF.A.1	Number and Operations— Fractions	Number and Operations— Fractions
11	Multiple Choice	C	1	CCSS.Math.Content.5.NF.B.4	Number and Operations— Fractions	Number and Operations— Fractions
13	Multiple Choice	C	1	CCSS.Math.Content.5.G.B.4	Geometry	
14	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.5	Number and Operations— Fractions	Number and Operations— Fractions
17	Multiple Choice	C	1	CCSS.Math.Content.5.MD.C.3	Measurement and Data	Measurement and Data
18	Multiple Choice	A	1	CCSS.Math.Content.5.NBT.A.3a	Number and Operations in Base Ten	Number and Operations in Base Ten
24	Multiple Choice	D	1	CCSS.Math.Content.5.MD.A.1	Measurement and Data	Measurement and Data
25	Multiple Choice	A	1	CCSS.Math.Content.5.OA.A.2	Operations and Algebraic Thinking	
28	Multiple Choice	A	1	CCSS.Math.Content.5.MD.C.3b	Measurement and Data	Measurement and Data
29	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.7a	Number and Operations— Fractions	Number and Operations— Fractions
30	Multiple Choice	B	1	CCSS.Math.Content.5.MD.C.5a	Measurement and Data	Measurement and Data
Session 2						
31	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.7c	Number and Operations— Fractions	Number and Operations— Fractions
32	Multiple Choice	D	1	CCSS.Math.Content.5.NF.A.1	Number and Operations— Fractions	Number and Operations— Fractions
33	Multiple Choice	A	1	CCSS.Math.Content.4.NF.C.6	Number and Operations in Base Ten	Number and Operations in Base Ten
34	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.6	Number and Operations— Fractions	Number and Operations— Fractions
35	Multiple Choice	B	1	CCSS.Math.Content.5.MD.C.5b	Measurement and Data	Measurement and Data
36	Multiple Choice	A	1	CCSS.Math.Content.5.MD.A.1	Measurement and Data	Measurement and Data
37	Multiple Choice	D	1	CCSS.Math.Content.5.G.B.4	Geometry	
38	Multiple Choice	C	1	CCSS.Math.Content.5.MD.C.4	Measurement and Data	Measurement and Data
39	Constructed Response		2	CCSS.Math.Content.5.MD.A.1	Measurement and Data	Measurement and Data
40	Constructed Response		2	CCSS.Math.Content.5.NBT.A.1	Number and Operations in Base Ten	Number and Operations in Base Ten
41	Constructed Response		2	CCSS.Math.Content.5.NF.A.2	Number and Operations— Fractions	Number and Operations— Fractions
42	Constructed Response		2	CCSS.Math.Content.5.NF.B.4b	Number and Operations— Fractions	Number and Operations— Fractions
43	Constructed Response		2	CCSS.Math.Content.5.MD.B.2	Measurement and Data	Measurement and Data
44	Constructed Response		2	CCSS.Math.Content.5.NF.B.6	Number and Operations— Fractions	Number and Operations— Fractions
45	Constructed Response		3	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten	Number and Operations in Base Ten

*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.