



Our Students. Their Moment.

**New York State Testing Program
Grade 6
Mathematics Test**

Released Questions

June 2019

New York State administered the Mathematics Tests in May 2019 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 2019 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 2019 NYS Grades 3-8 English Language Arts and Mathematics test materials for review, discussion, and use.

For 2019, included in these released materials are at least 75 percent of the test questions that appeared on the 2019 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 6 2019
Mathematics Test
Session 1
May 1–3, 2019

紐約州考試計劃 數學考試 第 1 卷

6 年級

2019 年 5 月 1 至 3 日

RELEASED QUESTIONS

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6年級數學參考資料

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公式

三角形

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

長方體

$$V = Bh \text{ 或 } V = lwh$$

第 1 卷

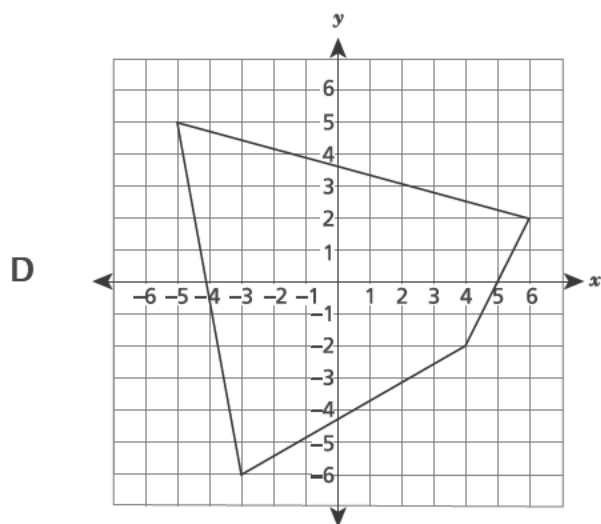
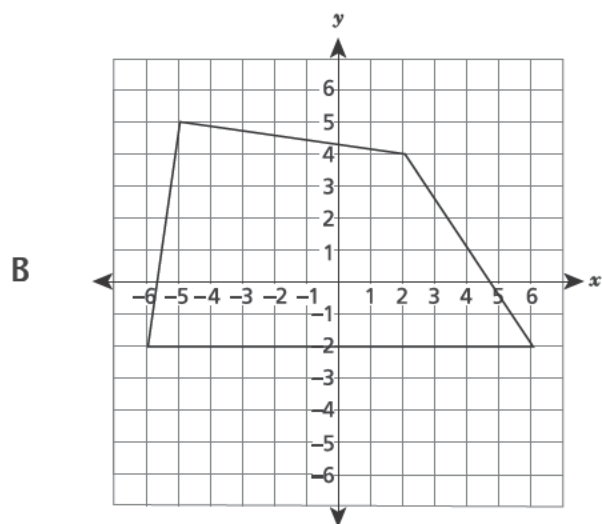
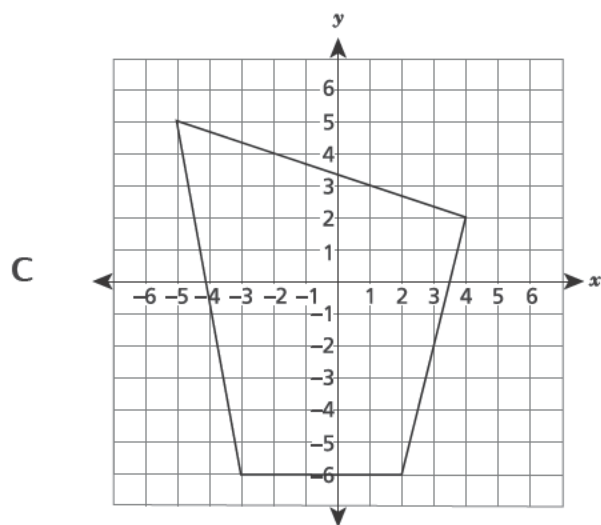
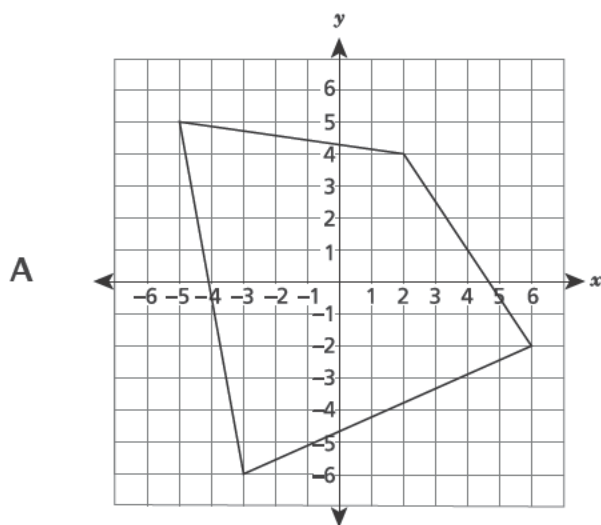


考試建議

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- 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。

哪個座標平面顯示的是具有四個頂點 $(-5, 5)$, $(2, 4)$, $(6, -2)$, 和 $(-3, -6)$ 的多邊形?



繼續

2

請問表達式 $\frac{3^2 \cdot (2^3 + 4)}{2^2}$ 的值是多少？

A 10

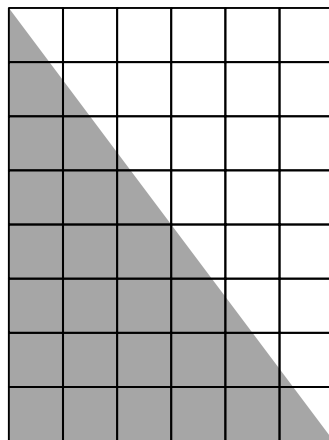
B 15

C 19

D 27

3

下面顯示的網格呈矩形。



矩形陰影部分的面積是多少平方單位？

A 14

B 24

C 28

D 48

繼續

4

黛博妮有 6 茶匙鹽。茶匙與湯匙的比例是 3 : 1。黛博妮有多少湯匙鹽？

A $\frac{1}{18}$

B $\frac{1}{2}$

C 2

D 18

繼續

哪個表達式與以下陳述相當？

$2t$ 與 2 之和除以以下字母立方的兩倍： s

A $2t + \frac{2}{3s^2}$

B $2t + \frac{2}{2s^3}$

C $\frac{2t + 2}{3s^2}$

D $\frac{2t + 2}{2s^3}$

10

管理員計劃重新塗刷一些教室書櫃。她有 $5\frac{1}{4}$ 加侖油漆。所有書櫃的尺寸都是相同的，每個都需要 $\frac{3}{4}$ 加侖油漆。管理員可以用這些油漆重新塗刷多少個書櫃？

- A 3
- B 4
- C 7
- D 15

繼續

13

卡莉購買了 $9\frac{1}{2}$ 品脫冰淇淋來準備聚會。如果為每位客人精確提供 $\frac{3}{5}$ 品脫冰淇淋，那麼卡莉最多可為多少位客人提供冰淇淋？

- A** 5
- B** 9
- C** 15
- D** 16

繼續

16

在巴士車站，巴士於早上 6 點開始營運，兩輛巴士的營運時間間隔如下所列。

- 巴士 A 路線長，每 75 分鐘一班。
- 巴士 B 路線短，每 15 分鐘一班。

下一次巴士 A 和巴士 B 將同時離開巴士車站的是什麼時間？

- A 上午 7:00
- B 上午 7:15
- C 上午 7:30
- D 上午 8:30

17

哪個數的絕對值大於 5？

- A -6
- B -5
- C 0
- D 5

繼續

26

一家麵包店用 3 袋麵粉製作了 9 個蛋糕。麵包店在已製作蛋糕和用於製作所有蛋糕的麵粉量之間使用了相同的關係。哪個數值表顯示了麵包店製作的蛋糕數量與麵包店使用的麵粉袋數之間的關係？

烘焙的蛋糕

A

蛋糕	1	2	3	4	5
麵粉袋數	3	6	9	12	15

C

烘焙的蛋糕

蛋糕	7	8	9	10	11
麵粉袋數	1	2	3	4	5

烘焙的蛋糕

B

蛋糕	3	6	9	12	15
麵粉袋數	1	2	3	4	5

D

烘焙的蛋糕

蛋糕	1	2	3	4	5
麵粉袋數	7	8	9	10	11

27

任何立方體的體積， V （具有邊長 s ）可以使用公式 $V = s^3$ 來確定。邊長為 2.3 釐米的立方體的體積是多少立方釐米？

A 5.29

B 6.9

C 8.027

D 12.167

繼續

28

托拉先生有一塊長度為 $8\frac{1}{4}$ 英尺的木頭。他想將其截為長度是 $\frac{3}{4}$ 英尺的一些小段。請問托拉先生可以獲得多少段 $\frac{3}{4}$ 英尺的木頭？

- A 7
- B 8
- C 9
- D 11

29

動物園有 15 只鸚鵡和 60 只鸚鵡。在動物園裡，鸚鵡的數量與鸚鵡數量的比例是多少？

- A 1 : 4
- B 1 : 5
- C 4 : 1
- D 4 : 5

30

上週某餐館用了 231 個雞蛋。其中，46 個雞蛋是褐色的。其餘的雞蛋是白色的。請問哪個方程式可用來計算 w ，上週所使用的白色雞蛋的個數？

- A $231 + 46w = 0$
- B $46 + w = 231$
- C $w = 231 + 46$
- D $231 = 46w$

繼續

31 哪個表達式等於 $9(9m + 3t)$?

A $18m + 3t$

B $81m + 3t$

C $18m + 12t$

D $81m + 27t$

停止作答

6 年級

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第 1 卷

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Mathematics Test

Session 1

May 1–3, 2019

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Chinese Edition
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Mathematics Test
Session 2
May 1–3, 2019

紐約州考試計劃 數學考試 第 2 卷

6 年級

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公式

三角形

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長方體

$$V = Bh \text{ 或 } V = lwh$$

第 2 卷



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- 如果有相關要求，請寫出你的計算過程。

32

請問以下哪組值可使不等式 $n \geq -5$ 成立？

A $\{-5, -5.5, -6\}$

B $\{-5, -4.5, -3\}$

C $\{-6, 0, 5\}$

D $\{-6, -7, -8\}$

33

一家冰淇淋店每天售出 48 個香草奶昔，占當天銷售的奶昔總量的 40%。那天冰淇淋店銷售的奶昔總數是多少？

A 60

B 72

C 100

D 120

34

請問哪個表達式代表以下的陳述？

3 從以下字母中減去： p

A $3 - p$

B $p \div 3$

C $3 \div p$

D $p - 3$

繼續

35

哪個數字不是下面不等式的解集合的一部分？

$$w - 10 \leq 16$$

A 11

B 15

C 26

D 27

36

三角形 ABC 頂點的座標是 A(1, -1)、B(1, 4) 和 C(8, 4)。連接頂點 A 和頂點 B 的線段的長度是多少單位？

A 1

B 4

C 5

D 7

37

肯和泰咪正在製作項鍊。肯製作 25 條項鍊。泰咪製作的項鍊比肯多 m 。請問哪個表達式代表肯和泰咪製作的項鍊總數？

A $25 + (25 + m)$

B $25 + 25m$

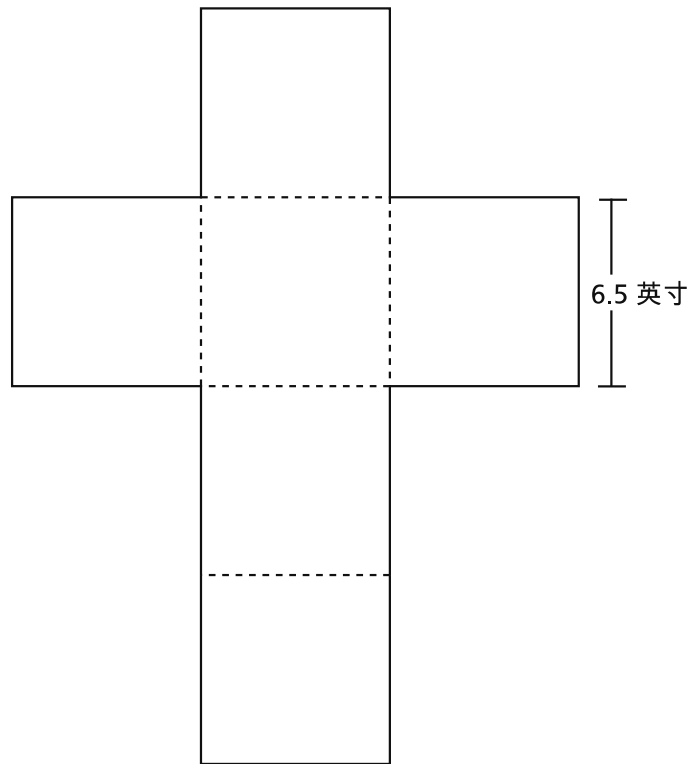
C $25 + m$

D $25m$

繼續

基拉裝飾立方體形狀的禮品盒的外表面。下圖顯示了禮品盒的展開圖。

基拉的禮品盒展開圖

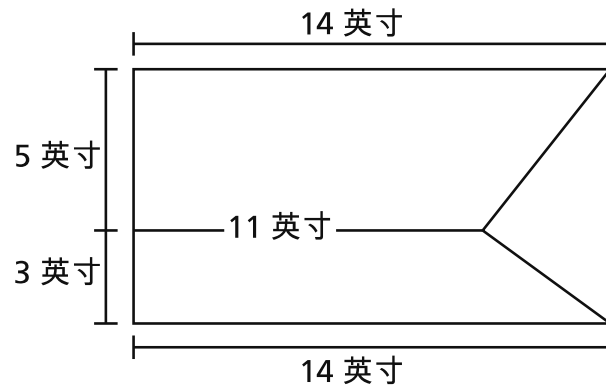


請問基拉裝飾的禮品盒的表面積是多少平方英寸？

- | | | | |
|---|-------|---|-------|
| A | 91.0 | C | 253.5 |
| B | 169.0 | D | 274.6 |

繼續

大衛用一張大矩形紙做了一個班級橫幅。他從一側切出一塊三角形形狀的碎片，如下圖所示。



請問橫幅的面積是多少平方英寸？

請寫出你的計算過程。

答案 _____ 平方英寸

40

阿蔔迪有兩個電動火車組：A 和 B。每列火車都在自己的圓形軌道上行駛。他同時啟動兩列火車。火車 A 每隔12 秒鐘返回其起點。火車 B 每隔9 秒鐘返回其起點。如果火車繼續行駛，那麼兩列火車將同時到達起點的最短時間是多少秒？

請寫出你的計算過程。

答案 _____ 秒

繼續

41

溫斯頓透過在學校的特許攤位出售 56 只熱狗賺了 \$140.00。使用相同的費率作為一只熱狗的售價，溫斯頓需要多賣多少只熱狗才能獲得 \$175.00？

請寫出你的計算過程。

答案 _____ 只熱狗

繼續

42

在棒球比賽結束時，球員可以選擇喝一瓶水或一盒果汁。在所有的球員中，12 位選擇喝水，占所有球員人數的 $\frac{3}{4}$ 。編寫並求解方程以確定 p ，即棒球比賽中的球員總數。

請寫出你的計算過程。

答案 _____ 位球員

繼續

特里斯丹正在根據以下資訊比較兩個數字模式。

- 兩個數字模式都是以 1 開頭。
- 數字模式 A 遵循規則「新增 3」。
- 數字模式 B 遵循規則「新增 4」。

數字模式 A 中前 5 項的每一項與數字模式 B 中前 5 項相比結果如何？
作為答案的一部分，列出每個數字模式的前 5 項。

請解釋你的答案。

傑克遜先生為他自己和一些同事訂購午餐送到他的工作場所。每份午餐的費用為 **\$6.25**。送午餐還需要 **\$3.50** 的一次性運費。傑克遜先生可以用什麼表達方式來計算訂購 n 份午餐的費用？

表達式 _____

使用你的表達式計算送 5 份午餐的總費用。

請寫出你的計算過程。

答案 \$ _____

繼續

45

食譜使用 $1\frac{1}{4}$ 杯牛奶製作 10 份食物。如果每份食物使用相同數量的牛奶，那麼使用 1 加侖牛奶可以製作多少份食物？

請寫出你的計算過程。

答案 _____ 份食物

繼續

如下所述，商店出售兩種不同包裝的膠棒。

- 包裝 A：18 只膠棒
- 包裝 B：12 只膠棒

寫出包裝 A 的方程式和包裝 B 的方程式，用以表示膠棒總數 g （在 p 個包裝中）。

包裝 A _____

包裝 B _____

大衛斯先生購買了 5 包包裝 A 的膠棒。威爾遜女士購買了 8 包包裝 B 的膠棒。使用你的方程式計算出每個人購買的膠棒總數之差。

請寫出你的計算過程。

答案 _____ 只膠棒

停止作答

6 年級

2019

數學考試

第 2 卷

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Grade 6

2019

Mathematics Test

Session 2

May 1–3, 2019

THE STATE EDUCATION DEPARTMENT
THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234
2019 Mathematics Tests Map to the Standards
Grade 6 Released Questions on EngageNY

Question	Type	Key	Points	Standard	Cluster	Subscore
Session 1						
1	Multiple Choice	A	1	CCSS.Math.Content.6.G.A.3	Geometry	
2	Multiple Choice	D	1	CCSS.Math.Content.6.EE.A.1	Expressions and Equations	Expressions and Equations
3	Multiple Choice	B	1	CCSS.Math.Content.6.G.A.1	Geometry	
4	Multiple Choice	C	1	CCSS.Math.Content.6.RP.A.3d	Ratios and Proportional Relationships	Ratios and Proportional Relationships
7	Multiple Choice	D	1	CCSS.Math.Content.6.EE.A.2a	Expressions and Equations	Expressions and Equations
10	Multiple Choice	C	1	CCSS.Math.Content.6.NS.A.1	The Number System	The Number System
13	Multiple Choice	C	1	CCSS.Math.Content.6.NS.A.1	The Number System	The Number System
16	Multiple Choice	B	1	CCSS.Math.Content.6.NS.B.4	The Number System	The Number System
17	Multiple Choice	A	1	CCSS.Math.Content.6.NS.C.7d	The Number System	The Number System
26	Multiple Choice	B	1	CCSS.Math.Content.6.RP.A.3a	Ratios and Proportional Relationships	Ratios and Proportional Relationships
27	Multiple Choice	D	1	CCSS.Math.Content.6.EE.A.2c	Expressions and Equations	Expressions and Equations
28	Multiple Choice	D	1	CCSS.Math.Content.6.NS.A.1	The Number System	The Number System
29	Multiple Choice	A	1	CCSS.Math.Content.6.RP.A.1	Ratios and Proportional Relationships	Ratios and Proportional Relationships
30	Multiple Choice	B	1	CCSS.Math.Content.6.EE.B.7	Expressions and Equations	Expressions and Equations
31	Multiple Choice	D	1	CCSS.Math.Content.6.EE.A.3	Expressions and Equations	Expressions and Equations
Session 2						
32	Multiple Choice	B	1	CCSS.Math.Content.6.EE.B.5	Expressions and Equations	Expressions and Equations
33	Multiple Choice	D	1	CCSS.Math.Content.6.RP.A.3c	Ratios and Proportional Relationships	Ratios and Proportional Relationships
34	Multiple Choice	D	1	CCSS.Math.Content.6.EE.A.2a	Expressions and Equations	Expressions and Equations
35	Multiple Choice	D	1	CCSS.Math.Content.6.EE.B.5	Expressions and Equations	Expressions and Equations
36	Multiple Choice	C	1	CCSS.Math.Content.6.G.A.3	Geometry	
37	Multiple Choice	A	1	CCSS.Math.Content.6.EE.B.6	Expressions and Equations	Expressions and Equations
38	Multiple Choice	C	1	CCSS.Math.Content.6.G.A.4	Geometry	
39	Constructed Response		2	CCSS.Math.Content.6.G.A.1	Geometry	
40	Constructed Response		2	CCSS.Math.Content.6.NS.B.4	The Number System	The Number System

41	Constructed Response		2	CCSS.Math.Content.6.RP.A.2	Ratios and Proportional Relationships	Ratios and Proportional Relationships
42	Constructed Response		2	CCSS.Math.Content.6.EE.B.7	Expressions and Equations	Expressions and Equations
43	Constructed Response		2	CCSS.Math.Content.5.OA.B.3	Expressions and Equations	Expressions and Equations
44	Constructed Response		2	CCSS.Math.Content.6.EE.A.2a	Expressions and Equations	Expressions and Equations
45	Constructed Response		2	CCSS.Math.Content.6.RP.A.3d	Ratios and Proportional Relationships	Ratios and Proportional Relationships
46	Constructed Response		3	CCSS.Math.Content.6.EE.C.9	Expressions and Equations	Expressions and Equations

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