



Our Students. Their Moment.

**New York State Testing Program  
Grade 7 Common Core  
Mathematics Test**

**Released Questions**

**June 2017**

New York State administered the Mathematics Common Core Tests in May 2017 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 2017 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 2017 NYS Grades 3-8 Common Core English Language Arts and Mathematics test materials for review, discussion, and use.

For 2017, included in these released materials are at least 75 percent of the test questions that appeared on the 2017 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>.

Name: \_\_\_\_\_



# ***New York State Testing Program***

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## **2017 Common Core Mathematics Test Book 1**

**Grade 7**

**May 2–4, 2017**

**Released Questions**

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# Grade 7 Mathematics Reference Sheet

## CONVERSIONS

1 inch = 2.54 centimeters

1 meter = 39.37 inches

1 mile = 5,280 feet

1 mile = 1,760 yards

1 mile = 1.609 kilometers

1 kilometer = 0.62 mile

1 pound = 16 ounces

1 pound = 0.454 kilogram

1 kilogram = 2.2 pounds

1 ton = 2,000 pounds

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 gallon = 3.785 liters

1 liter = 0.264 gallon

1 liter = 1,000 cubic centimeters

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## FORMULAS

Triangle

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

Parallelogram

$$A = bh$$

Circle

$$A = \pi r^2$$

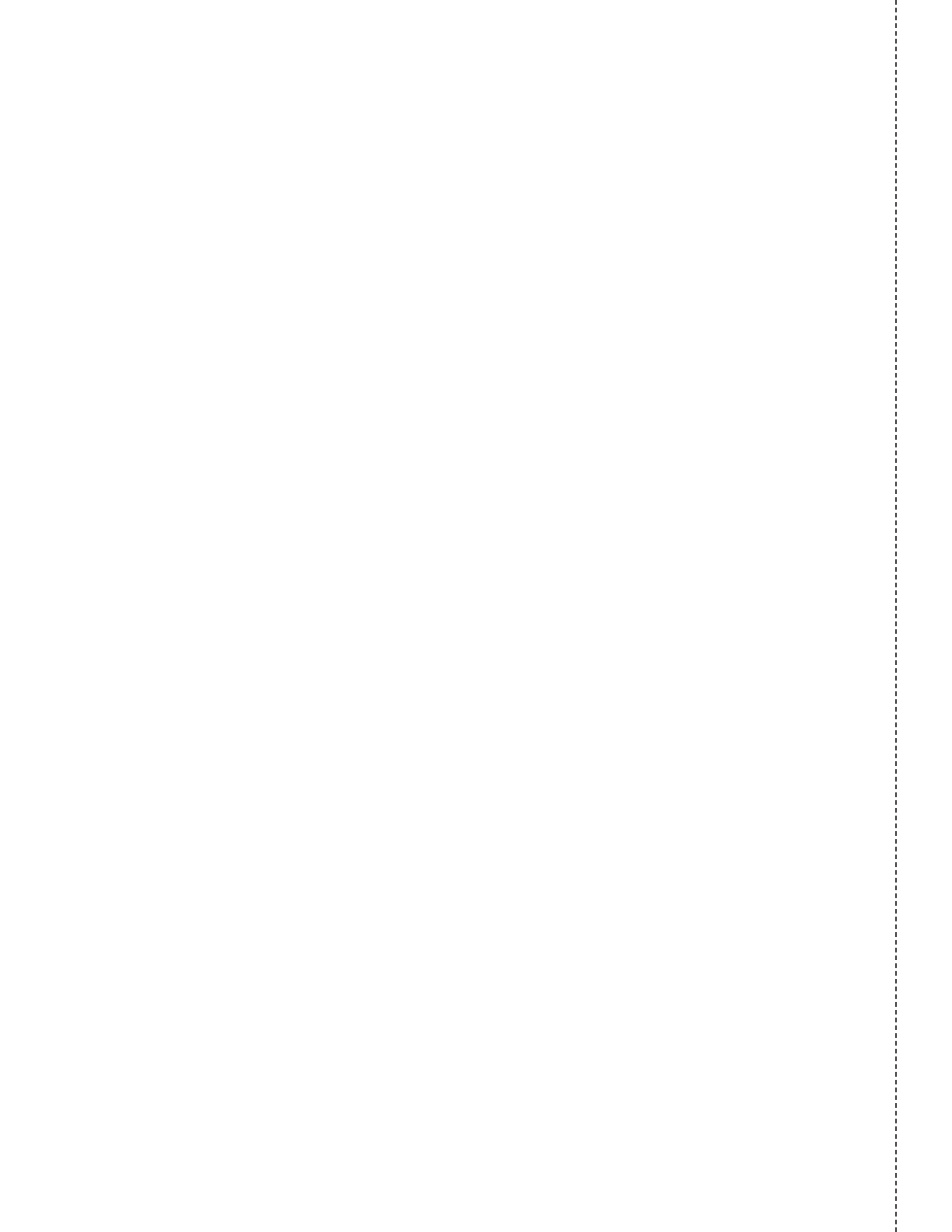
Circle

$$C = \pi d \text{ or } C = 2\pi r$$

General Prisms

$$V = Bh$$

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# Book 1



## TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before choosing your response.
- You have been provided with mathematics tools (a ruler and a protractor) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.



**1**

Point P is shown on the number line below.



The distance between point Q and point P is  $6\frac{1}{2}$  units. Which number could represent point Q?

A  $-9\frac{1}{2}$

B  $1\frac{1}{2}$

C  $2\frac{1}{2}$

D  $10\frac{1}{2}$

**2**

Ms. Gartland bought  $x$  number of shirts for the new members of her chorus. The cost for  $x$  number of shirts, including \$3.99 shipping, was \$77.49. Each shirt cost \$12.25. There was no sales tax on this purchase. Which equation could be used to find  $x$ ?

A  $3.99(x + 12.25) = 77.49$

B  $3.99x + 12.25 = 77.49$

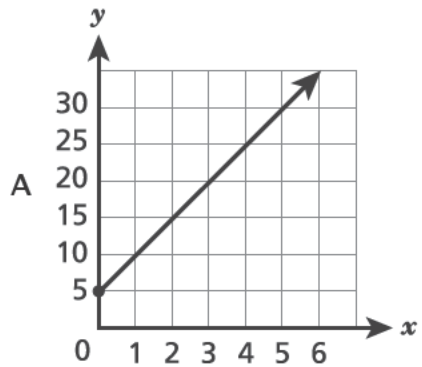
C  $12.25(x + 3.99) = 77.49$

D  $12.25x + 3.99 = 77.49$

**GO ON**

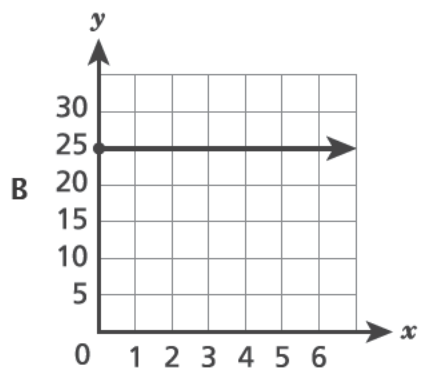
3

Which representation shows a proportional relationship between  $x$  and  $y$ ?



C

$x$	$y$
2	8
4	16
8	24
12	32



D

$x$	$y$
2	3
4	6
8	12
12	18

4

Every five years in March, the population of a certain town is recorded. In 1995, the town had a population of 4,500 people. From 1995 to 2000, the population increased by 15%. From 2000 to 2005, the population decreased by 4%. What was the town's population in 2005?

- A 4,527
- B 4,968
- C 4,995
- D 5,382

- 9 The measure of one side of a square is  $(s + 3)$  inches long. Which pair of expressions both represent the perimeter of this square?

$$2s + 3$$

A and

$$(s + 3)(s + 3)$$

$$2(s + 3)$$

B and

$$(s + 3)(s + 3)$$

$$4s + 3$$

C and

$$(s + 3) + (s + 3) + (s + 3) + (s + 3)$$

$$4(s + 3)$$

D and

$$(s + 3) + (s + 3) + (s + 3) + (s + 3)$$

- 10 Which expression has the same value as  $59.2 - 84.7$ ?

A  $84.7 - 59.2$

B  $-84.7 + (-59.2)$

C  $59.2 - (-84.7)$

D  $59.2 + (-84.7)$

**GO ON**

- 11 Winston needs at least 80 signatures from students in his school before he can run for class president. He has 23 signatures already. He and two of his friends plan to get the remaining signatures during lunch. If each person gets the same number of signatures, which inequality can Winston use to determine the minimum number of signatures each person should get so he can run for class president?

- A  $3x + 80 \geq 23$
- B  $3x + 80 \leq 23$
- C  $3x + 23 \geq 80$
- D  $3x + 23 \leq 80$

- 12 In the morning, a farm worker packed 3 pints of strawberries every 4 minutes. In the afternoon, she packed 2 pints of strawberries every 3 minutes. What was the difference between her morning and afternoon packing rates, in pints per hour?

- A 5
- B 10
- C 40
- D 45

- 13 Which expression makes the equation true for all values of  $x$ ?

$$16x - 16 = 4(\underline{\quad? \quad})$$

- A  $4x - 4$
- B  $4x - 16$
- C  $2x - 2$
- D  $12x - 12$

14 Which number is equivalent to  $\frac{43}{12}$ ?

A 3.583

B  $3.58\bar{3}$

C  $3.5\bar{83}$

D  $3.\overline{583}$

15 Mr. Santino needs a total of 406 forks for his restaurant. He currently has 278 forks. If each set has 12 forks, what is the minimum number of sets of forks he should buy?

A 11

B 12

C 128

D 140

16 If the expression below has a positive value, which inequality represents all possible values of  $x$  in the expression?

$$-3x$$

A  $x < 0$

B  $x > 0$

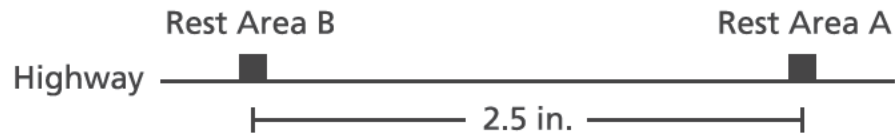
C  $x \leq 0$

D  $x \geq 0$

**GO ON**

19

Jensen stopped at rest area A along the side of the highway. His map, shown below, has a scale of 1 inch to 35 miles.



Jensen planned to stop at rest area B next. What is the actual distance, in miles, between the two rest areas?

- A 14.0
- B 37.5
- C 70.5
- D 87.5

20

Which statement describes the decimal equivalent of  $\frac{7}{8}$ ?

- A It is a decimal with a repeating digit of 5.
- B It is a decimal with repeating digits of 75.
- C It is a decimal that terminates after 2 decimal places.
- D It is a decimal that terminates after 3 decimal places.

**GO ON**

- 21 Which expression is equivalent to the expression shown below?

$$-\frac{1}{2}\left(-\frac{3}{2}x + 6x + 1\right) - 3x$$

- A  $\frac{3}{2}x - \frac{1}{2}$   
B  $6\frac{3}{4}x - \frac{1}{2}$   
C  $-\frac{3}{4}x + \frac{1}{2}$   
D  $-5\frac{1}{4}x - \frac{1}{2}$

- 22 Leanne collects data throughout the basketball season and uses these data to determine the probabilities of different teams playing in the league championship game. The probabilities for her four favorite teams playing in the championship game are shown below.

- Tigers:  $P = \frac{2}{3}$
- Redbirds:  $P = \frac{4}{5}$
- Bulldogs:  $P = \frac{3}{8}$
- Titans:  $P = \frac{1}{2}$

Which of these teams is **least likely** to play in the championship game?

- A Tigers  
B Redbirds  
C Bulldogs  
D Titans

25 The initial balance of a savings account was \$275. After which transactions will the balance of the savings account be the same as the initial balance?

- A a withdrawal of \$232 followed by a deposit of \$132
- B a deposit of \$278 followed by a withdrawal of \$278
- C a withdrawal of \$115 followed by a deposit of \$312
- D a deposit of \$205 followed by a withdrawal of \$317

26 A researcher surveyed five randomly selected employees from each of four different companies about their daily commutes to work. The table shows the commute times for the surveyed employees.

### COMMUTE TIMES FOR SELECTED EMPLOYEES

Amount of Time for Company 1 (minutes)	Amount of Time for Company 2 (minutes)	Amount of Time for Company 3 (minutes)	Amount of Time for Company 4 (minutes)
24	6	15	13
26	32	15	10
28	9	15	45
23	31	15	12
21	21	15	15

Based on the data, which company **most likely** has the longest average commute time per employee?

- A Company 1
- B Company 2
- C Company 3
- D Company 4

**STOP**



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**Grade 7**  
**2017 Common Core**  
**Mathematics Test**  
**Book 1**  
May 2–4, 2017

Name: \_\_\_\_\_



# *New York State Testing Program*

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## **2017 Common Core Mathematics Test Book 2**

**Grade 7**

**May 2–4, 2017**

Released Questions

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## FORMULAS

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

Parallelogram

$$A = bh$$

Circle

$$A = \pi r^2$$

Circle

$$C = \pi d \text{ or } C = 2\pi r$$

General Prisms

$$V = Bh$$

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# Book 2



## TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before choosing your response.
- You have been provided with mathematics tools (a ruler, a protractor, and a calculator) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.

27 In a scale drawing of an apartment, 1 centimeter represents  $2\frac{3}{4}$  feet. If the length of the kitchen is  $4\frac{1}{2}$  cm on the scale drawing, what is the actual length, in feet, of the kitchen?

A  $6\frac{2}{3}$

B  $7\frac{1}{4}$

C  $8\frac{3}{8}$

D  $12\frac{3}{8}$

28 A passenger train has tickets available for 12 window seats and 8 aisle seats. The next person to buy a ticket will be randomly assigned to one of those seats. What is the probability that the next person will be assigned to an aisle seat?

A  $\frac{1}{8}$

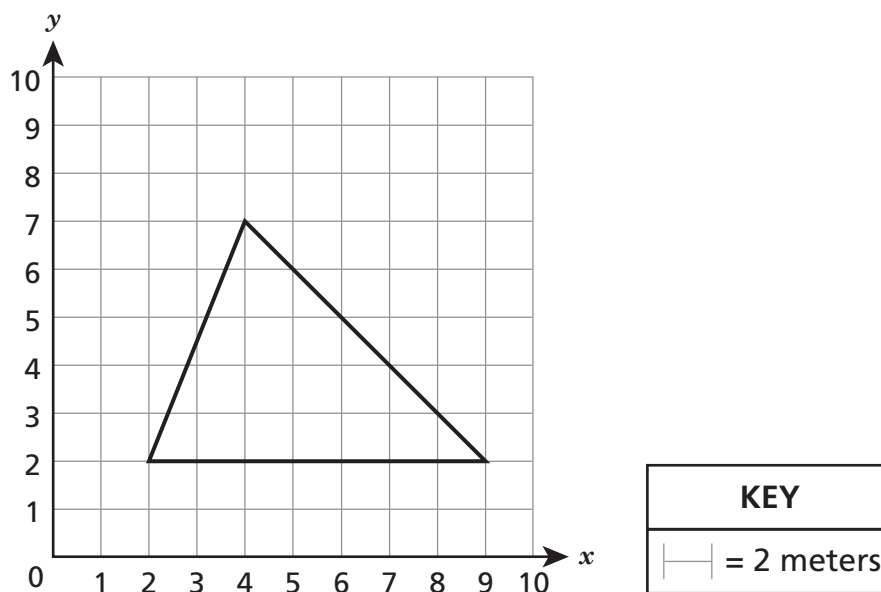
B  $\frac{2}{5}$

C  $\frac{1}{2}$

D  $\frac{2}{3}$

**GO ON**

- 32 The scale drawing of a field in the shape of a triangle is shown below.



What is the actual area, in square meters, of this field?

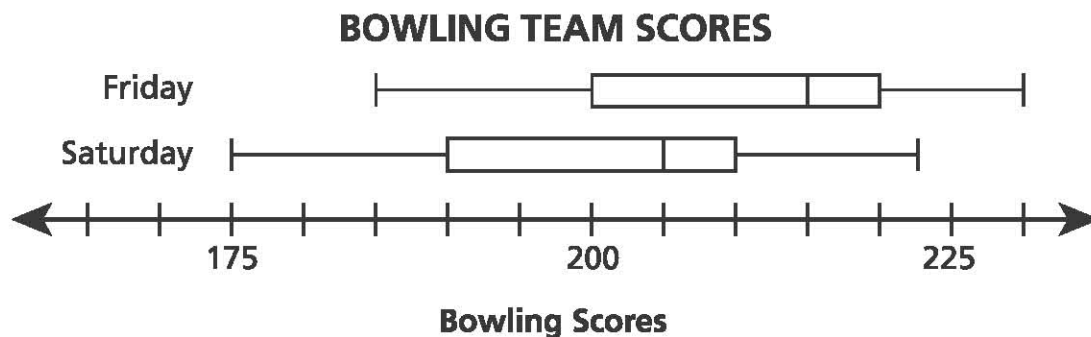
- A 8.75  
B 17.5  
C 35  
D 70
- 33 A vehicle uses  $1\frac{1}{8}$  gallons of gasoline to travel  $13\frac{1}{2}$  miles. At this rate, how many miles can the vehicle travel per gallon of gasoline?
- A  $\frac{16}{243}$   
B  $\frac{4}{3}$   
C 12  
D 13

**GO ON**



34

A bowling team participates in a two-day tournament and records the scores for each team member on both days. The scores for both days are represented by the box plots below.



Which conclusion can be drawn from the box plots?

- A The scores on Friday and the scores on Saturday have the same median and interquartile range.
- B The scores on Friday have a greater median and a greater interquartile range than the scores on Saturday.
- C The scores on Friday have a greater interquartile range than the scores on Saturday, but both data sets have the same median.
- D The scores on Friday have a greater median than the scores on Saturday, but both data sets have the same interquartile range.

35

Which expression is equivalent to  $\frac{7}{2}h - 3\left(5h - \frac{1}{2}\right)$ ?

- A  $-\frac{23}{2}h + \frac{3}{2}$
- B  $-\frac{23}{2}h - \frac{3}{2}$
- C  $\frac{37}{2}h + \frac{3}{2}$
- D  $\frac{37}{2}h - \frac{3}{2}$

**GO ON**

**36** Jeanette purchased a concert ticket on a web site. The original price of the ticket was \$75. She used a coupon code to receive a 20% discount. The web site applied a 10% service fee to the discounted price. Jeanette's ticket was less than the original price by what percent?

- A 7%
- B 10%
- C 12%
- D 28%

**37** A seventh grade English Language Arts teacher wants to order books for all the seventh grade classes. He wants to determine the favorite type of book among the seventh grade students. Which sample would be the most appropriate for this survey?

- A 7 girls in each of his classes
- B every fifth student in the seventh grade
- C 1 out of 7 students in his middle school
- D all of the boys in one of his seventh grade classes

**38** The amount of money in a bank account increased by 21.5% over the last year. If the amount of money at the beginning of the year is represented by  $n$ , which expression represents the amount of money in the bank account after the increase?

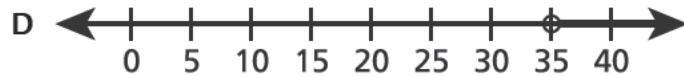
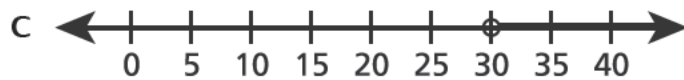
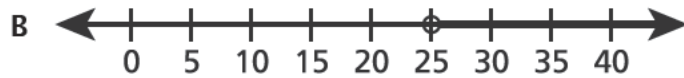
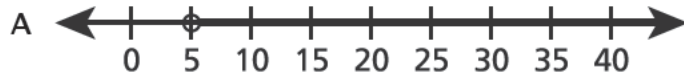
- A  $n + 0.215n$
- B  $n + 21.5n$
- C  $0.215n$
- D  $21.5n$

**GO ON**

- 39 Kiyo used wire fencing to form a border around a circular region in his back yard. If the radius of the circular region was 5 yards, what was the total length of the border, rounded to the nearest tenth of a yard?
- A 15.7  
B 31.4  
C 78.5  
D 157.1
- 40 A triangle has side lengths of  $(5.5x + 6.2y)$  centimeters,  $(4.3x + 8.3z)$  centimeters, and  $(1.6z - 5.1y)$  centimeters. Which expression represents the perimeter, in centimeters, of the triangle?
- A  $11.4xz + 9.4yz$   
B  $11.7xy + 12.6xz - 3.5yz$   
C  $9.8x + 1.1y + 9.9z$   
D  $9.8x + 7.8y + 3.5z$
- 41 Carl wants to buy a television that costs \$500, including taxes. To pay for the television, he will use a payment plan that requires him to make a down payment of \$125, and then pay \$72.50 each month for 6 months. What is the percent increase from the original cost of the television to the cost of the television using the payment plan?
- A 6%  
B 12%  
C 58%  
D 89%

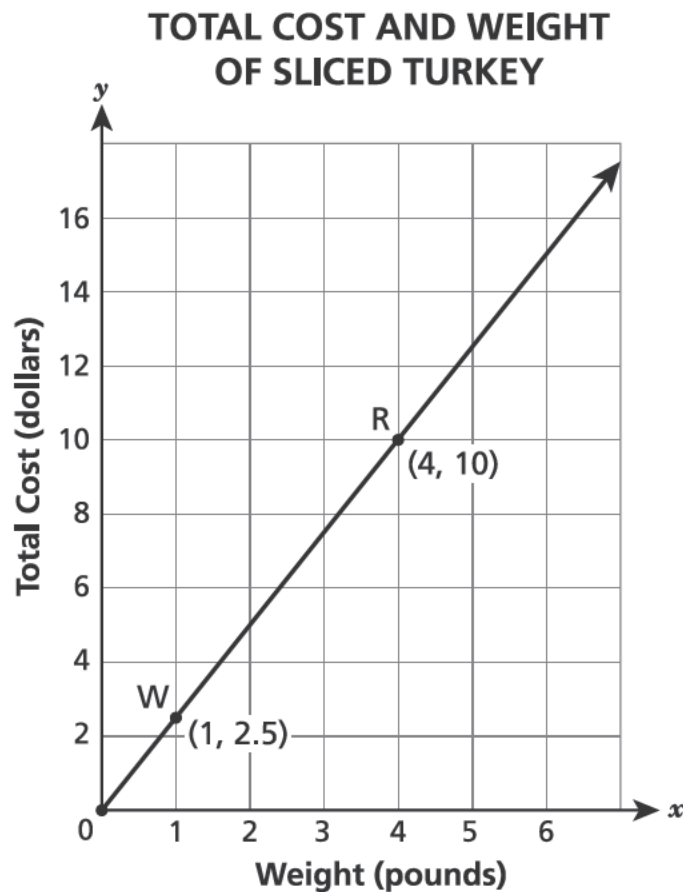
42

Yolanda participated in a walkathon in which each kilometer walked raised \$10 for charity. Her goal was to raise more than \$300 on Saturday and Sunday. She raised \$50 on Saturday. Which graph shows all the distances, in kilometers, that Yolanda could have walked on Sunday to reach her goal?

**GO ON**

43

A grocery store sells sliced turkey. The graph shows the relationship between the weight of the sliced turkey and the total cost of the sliced turkey. Two points, R and W, are labeled on the graph shown below.



Which statement about the graph is true?

- A Point R means that the unit rate is \$10.00 per pound.
- B Point R means that the unit rate is 4 pounds per dollar.
- C Point W means that the unit rate is \$2.50 per pound.
- D Point W means that the unit rate is 2.5 pounds per dollar.

**GO ON**

44 An item with an original price of  $p$  dollars is on sale at a 25% discount. Which expression is **not** equivalent to the price of the item with the discount?

A  $(1.0p - 0.25p)$

B  $(1.0 - 0.25)p$

C  $0.75p$

D  $0.25p$

45 A circle has a diameter of 26 units. What is the area of the circle to the nearest hundredth of a square unit?

A 81.68

B 530.93

C 2,123.72

D 8,494.87

46 The width of a rectangle is  $6\frac{2}{3}$  inches. The length of the rectangle is twice its width. What is the perimeter of the rectangle?

A 20 inches

B 40 inches

C  $30\frac{2}{3}$  inches

D  $88\frac{8}{9}$  inches

**GO ON**

A student uses a solution that contains 16 grams of water to conduct an evaporation experiment.

- At the end of one hour, the amount of water in the solution has decreased by 3.5%.
- At the end of two hours, the amount of water in the solution has decreased by another 4.25%.

Which calculations can be used to determine the amount of water, in grams, remaining in the solution at the end of the second hour?

- A Step 1:  $0.035 \times 16 = 0.56$   
Step 2:  $16 - 0.56 = 15.44$   
Step 3:  $0.0425 \times 15.44 = 0.6562$   
Step 4:  $16 - 0.6562 = 15.3438$
- B Step 1:  $0.035 \times 16 = 0.56$   
Step 2:  $16 - 0.56 = 15.44$   
Step 3:  $0.0425 \times 15.44 = 0.6562$   
Step 4:  $15.44 - 0.6562 = 14.7838$
- C Step 1:  $0.35 \times 16 = 5.6$   
Step 2:  $16 - 5.6 = 10.4$   
Step 3:  $0.425 \times 10.4 = 4.42$   
Step 4:  $16 - 4.42 = 11.58$
- D Step 1:  $0.35 \times 16 = 5.6$   
Step 2:  $16 - 5.6 = 10.4$   
Step 3:  $0.425 \times 10.4 = 4.42$   
Step 4:  $10.4 - 4.42 = 5.98$

50 What is the value of the expression  $\left(-\frac{8}{9}\right) \div \left(-\frac{2}{3}\right) \times \left(-4\frac{1}{2}\right)$ ?

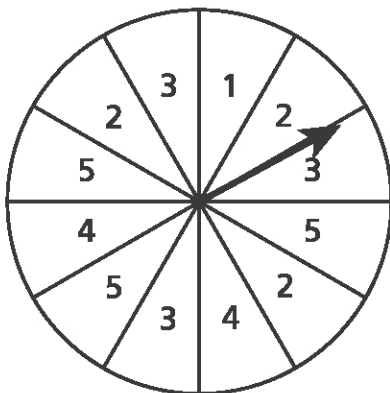
A -6

B  $-\frac{8}{27}$

C  $\frac{8}{27}$

D 6

51 A board game has a spinner divided into sections of equal size. Each section is labeled with a number between 1 and 5.



Which number is a reasonable estimate of the number of times the spinner will land on a section labeled 5 over the course of 150 spins?

A 15

B 25

C 40

D 60

**STOP**



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**Grade 7**  
**2017 Common Core**  
**Mathematics Test**  
**Book 2**  
May 2–4, 2017

Name: \_\_\_\_\_



# *New York State Testing Program*

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## **2017 Common Core Mathematics Test Book 3**

# **Grade 7**

**May 2–4, 2017**

Released Questions

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1 gallon = 4 quarts

1 gallon = 3.785 liters

1 liter = 0.264 gallon

1 liter = 1,000 cubic centimeters

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## FORMULAS

Triangle

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

Parallelogram

$$A = bh$$

Circle

$$A = \pi r^2$$

Circle

$$C = \pi d \text{ or } C = 2\pi r$$

General Prisms

$$V = Bh$$

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# Book 3



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- Read each question carefully and think about the answer before writing your response.
- You have been provided with mathematics tools (a ruler, a protractor, and a calculator) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference sheet whenever you think they will help you to answer the question.
- Be sure to show your work when asked.

52 Find the value of the expression.

$$\frac{5}{(-1.5 + 9.5)} + \frac{0.4(7 + 11)}{-0.2}$$

*Show your work.*

*Answer* \_\_\_\_\_

**GO ON**

53

A museum opened at 8:00 a.m. In the first hour, 350 people purchased admission tickets. In the second hour, 20% more people purchased admission tickets than in the first hour. Each admission ticket cost \$17.50.

What was the total amount of money paid for all the tickets purchased in the first two hours?

*Show your work.*

Answer \$ \_\_\_\_\_

**GO ON**



54

Mick paid \$2.94 in sales tax on an item that cost \$42.00 before tax. At that rate, how much would he pay in sales tax for an item that costs \$58.00 before tax?

*Show your work.*

*Answer* \$ \_\_\_\_\_

**GO ON**

55

At a store, customers are randomly selected to participate in a survey. On Friday, there were 500 customers at the store. Of those, 90 were selected to participate in the survey. On Saturday, the store manager expects 700 customers in the store. If the probability of being selected to participate in the survey on Saturday is the same as it was on Friday, how many customers will be selected to participate in the survey on Saturday?

*Show your work.*

*Answer* \_\_\_\_\_ customers on Saturday

**GO ON**

56

A school club needs 300 feet of rope for a project. They have the amounts of rope listed below.

- 2 pieces of rope that are each 16 yards in length
- 1 piece of rope that is 12.5 yards in length
- 1 piece of rope that is 123.25 feet in length

How much additional rope, in feet, does the school club need in order to have enough rope for their project?

*Show your work.*

*Answer* \_\_\_\_\_ additional feet of rope

**GO ON**

57

The table below lists the masses and volumes of several pieces of the same type of metal. There is a proportional relationship between the mass and the volume of the pieces of metal.

**PIECES OF METAL**

<b>Mass (grams)</b>	<b>Volume (cubic centimeters)</b>
34.932	4.1
47.712	5.6
61.344	7.2
99.684	11.7

Determine the mass, in grams, of a piece of this metal that has a volume of 15.3 cubic centimeters. Round your answer to the nearest tenth of a gram.

*Show your work.*

*Answer* \_\_\_\_\_ grams

**GO ON**

The table below shows the weekly change in the price of one gram of gold for four weeks.

### ONE GRAM OF GOLD

Week	Weekly Change in the Price (dollars)
1	+1.25
2	-3.125
3	+0.625
4	+1.5

By how much did the price of one gram of gold change from the beginning of week 1 to the end of week 4? Did the price increase or decrease?

*Explain how you found your answer.*

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At the end of week 4, the price per gram of gold was \$39.28. What was the price per gram of gold at the beginning of week 1?

*Show your work.*

*Answer* \_\_\_\_\_ price per gram of gold

**GO ON**

59

Hallum Hardware created flyers to advertise a sale on a certain type of carpet. A portion of the flyer is shown below.

<b>HALLUM HARDWARE CARPET SALE</b>	
<b>Area (square feet)</b>	<b>Cost (dollars)</b>
500	750
1,000	1,500
1,500	2,250
2,000	3,000

Guillen Floors advertises the same type of carpet at a cost of 10% less per square foot than Hallum Hardware. Determine the cost of 700 square feet of the carpet if it is bought from Guillen Floors.

*Show your work.*

Answer \$ \_\_\_\_\_

**GO ON**

60

A single gram of a certain metallic substance has 0.52 gram of copper and 0.26 gram of zinc. The remaining portion of the substance is nickel. Ben estimated that 0.2 gram of nickel is in 1 gram of the substance. He used this to estimate the amount of nickel in 35 grams of the substance. Find the result of Ben's estimation strategy. Then, find the exact amount of nickel in 35 grams of the substance.

*Show your work.*

*Ben's estimate* \_\_\_\_\_ grams

*Exact amount* \_\_\_\_\_ grams

**GO ON**

**61** Last year, a property manager bought five identical snow shovels and six identical bags of salt. The total cost of the snow shovels was \$172.50, before tax, and each bag of salt cost \$6.20, before tax.

This year, the property manager bought two identical snow shovels and four identical bags of salt. The total cost of the snow shovels was \$70.38, before tax, and the total cost of the bags of salt was \$26.04, before tax.

Determine the item with the greatest percent increase in the price from last year to this year. Be sure to include the percent increase of this item to the nearest percent.

*Show your work.*

*Answer* \_\_\_\_\_ and \_\_\_\_\_ %

**STOP**



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**Grade 7**  
**2017 Common Core**  
**Mathematics Test**  
**Book 3**  
May 2–4, 2017

**THE STATE EDUCATION DEPARTMENT  
THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234  
2017 Mathematics Tests Map to the Standards  
Released Questions on EngageNY**

Grade 7

Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Multiple Choice Questions:	Constructed Response Questions:	
							Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
<b>Book 1</b>									
1	Multiple Choice	C	1	CCSS.Math.Content.7.NS.A.1b	The Number System		0.76		
2	Multiple Choice	D	1	CCSS.Math.Content.7.EE.B.4a	Expressions and Equations		0.65		
3	Multiple Choice	D	1	CCSS.Math.Content.7.RP.A.2a	Ratios and Proportional Relationships		0.37		
4	Multiple Choice	B	1	CCSS.Math.Content.7.RP.A.3	Ratios and Proportional Relationships		0.52		
9	Multiple Choice	D	1	CCSS.Math.Content.7.EE.A.2	Expressions and Equations		0.54		
10	Multiple Choice	D	1	CCSS.Math.Content.7.NS.A.1c	The Number System		0.63		
11	Multiple Choice	C	1	CCSS.Math.Content.7.EE.B.4b	Expressions and Equations		0.54		
12	Multiple Choice	A	1	CCSS.Math.Content.7.RP.A.1	Ratios and Proportional Relationships		0.62		
13	Multiple Choice	A	1	CCSS.Math.Content.7.EE.A.1	Expressions and Equations		0.61		
14	Multiple Choice	B	1	CCSS.Math.Content.7.NS.A.2d	The Number System		0.68		
15	Multiple Choice	A	1	CCSS.Math.Content.7.EE.B.4a	Expressions and Equations		0.57		
16	Multiple Choice	A	1	CCSS.Math.Content.7.NS.A.2a	The Number System	CCSS.Math.Content.7.EE.B.4	0.33		
19	Multiple Choice	D	1	CCSS.Math.Content.7.G.A.1	Geometry		0.61		
20	Multiple Choice	D	1	CCSS.Math.Content.7.NS.A.2d	The Number System		0.49		
21	Multiple Choice	D	1	CCSS.Math.Content.7.EE.A.1	Expressions and Equations		0.30		
22	Multiple Choice	C	1	CCSS.Math.Content.7.SP.C.5	Statistics and Probability		0.64		

## Released Questions on EngageNY

Grade 7							Multiple Choice Questions:	Constructed Response Questions:	
Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
25	Multiple Choice	B	1	CCSS.Math.Content.7.NS.A.1a	The Number System		0.66		
26	Multiple Choice	A	1	CCSS.Math.Content.7.SP.B.4	Statistics and Probability		0.74		
<b>Book 2</b>									
27	Multiple Choice	D	1	CCSS.Math.Content.7.G.A.1	Geometry		0.65		
28	Multiple Choice	B	1	CCSS.Math.Content.7.SP.C.7a	Statistics and Probability		0.50		
32	Multiple Choice	D	1	CCSS.Math.Content.7.G.A.1	Geometry		0.29		
33	Multiple Choice	C	1	CCSS.Math.Content.7.RP.A.1	Ratios and Proportional Relationships		0.67		
34	Multiple Choice	D	1	CCSS.Math.Content.7.SP.B.3	Statistics and Probability		0.34		
35	Multiple Choice	A	1	CCSS.Math.Content.7.EE.A.1	Expressions and Equations		0.40		
36	Multiple Choice	C	1	CCSS.Math.Content.7.RP.A.3	Ratios and Proportional Relationships		0.35		
37	Multiple Choice	B	1	CCSS.Math.Content.7.SP.A.1	Statistics and Probability		0.77		
38	Multiple Choice	A	1	CCSS.Math.Content.7.EE.A.2	Expressions and Equations		0.38		
39	Multiple Choice	B	1	CCSS.Math.Content.7.G.B.4	Geometry		0.48		
40	Multiple Choice	C	1	CCSS.Math.Content.7.EE.A.1	Expressions and Equations		0.58		
41	Multiple Choice	B	1	CCSS.Math.Content.7.RP.A.3	Ratios and Proportional Relationships		0.52		
42	Multiple Choice	B	1	CCSS.Math.Content.7.EE.B.4b	Expressions and Equations		0.46		
43	Multiple Choice	C	1	CCSS.Math.Content.7.RP.A.2d	Ratios and Proportional Relationships		0.64		
44	Multiple Choice	D	1	CCSS.Math.Content.7.EE.A.2	Expressions and Equations		0.40		

## Released Questions on EngageNY

Grade 7

Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Multiple Choice Questions:	Constructed Response Questions:	
							Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
45	Multiple Choice	B	1	CCSS.Math.Content.7.G.B.4	Geometry		0.56		
46	Multiple Choice	B	1	CCSS.Math.Content.7.NS.A.3	The Number System		0.53		
47	Multiple Choice	B	1	CCSS.Math.Content.7.RP.A.3	Ratios and Proportional Relationships		0.47		
50	Multiple Choice	A	1	CCSS.Math.Content.7.NS.A.2c	The Number System		0.62		
51	Multiple Choice	C	1	CCSS.Math.Content.7.SP.C.6	Statistics and Probability		0.44		
<b>Book 3</b>									
52	Constructed Response		2	CCSS.Math.Content.7.EE.B.3	Expressions and Equations			0.94	0.47
53	Constructed Response		2	CCSS.Math.Content.7.EE.B.3	Expressions and Equations			0.95	0.48
54	Constructed Response		2	CCSS.Math.Content.7.RP.A.3	Ratios and Proportional Relationships			0.88	0.44
55	Constructed Response		2	CCSS.Math.Content.7.SP.C.6	Statistics and Probability			1.05	0.52
56	Constructed Response		2	CCSS.Math.Content.7.NS.A.3	The Number System			0.79	0.39
57	Constructed Response		2	CCSS.Math.Content.7.RP.A.2b	Ratios and Proportional Relationships			0.84	0.42
58	Constructed Response		3	CCSS.Math.Content.7.NS.A.3	The Number System			1.00	0.33
59	Constructed Response		3	CCSS.Math.Content.7.RP.A.2	Ratios and Proportional Relationships			1.08	0.36
60	Constructed Response		3	CCSS.Math.Content.7.EE.B.3	Expressions and Equations			1.22	0.41
61	Constructed Response		3	CCSS.Math.Content.7.RP.A.3	Ratios and Proportional Relationships			0.66	0.22

\*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.