

Name: _____



New York State Testing Program

2016 Common Core Mathematics Test Book 1

Grade 5

April 13–15, 2016

Released Questions

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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.
- Plan your time.

1

Pax wants to make fruit punch for a party using the recipe below.

Fruit Punch
1.25 L orange juice
2.5 L cranberry juice
1 L ginger ale

He will make three times the amount of fruit punch listed in the recipe. What is the total amount of fruit punch, in liters, that Pax will make?

- A 4.53
- B 4.75
- C 12.90
- D 14.25

2

What is the value of the expression below?

$$\begin{array}{r} 3\frac{1}{4} \\ -1\frac{7}{8} \\ \hline \end{array}$$

- A $1\frac{1}{4}$
- B $1\frac{3}{8}$
- C $2\frac{3}{8}$
- D $3\frac{1}{2}$

GO ON

3 What is the value of the expression $3,972 \div 12$?

- A 372
- B 336
- C 331
- D 306

4 The sign below is located at the start of Pinecone Trail and shows the distances from the sign to different points of interest along the trail.

Pinecone Trail	
Nature Center	$1\frac{1}{2}$ miles
Giant Boulder	$4\frac{1}{4}$ miles
Lookout Point	$8\frac{3}{4}$ miles

Sage hiked from the start of the trail to Lookout Point. She then hiked back to Giant Boulder to camp for the night. What was the total distance, in miles, that Sage hiked?

- A $21\frac{3}{4}$
- B $13\frac{1}{4}$
- C $4\frac{1}{2}$
- D $4\frac{1}{4}$

5

Which type of quadrilateral can have exactly 1 pair of parallel sides?

- A rectangle
- B rhombus
- C square
- D trapezoid

GO ON

- 9 What is the value of the expression below?

$$56 \div \frac{1}{17}$$

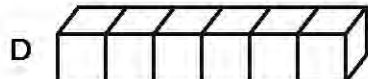
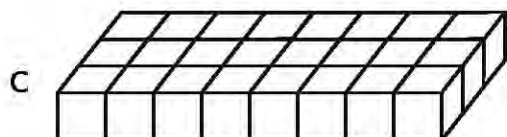
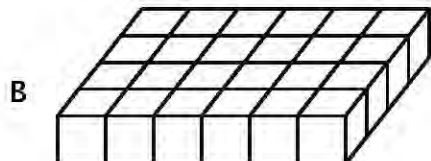
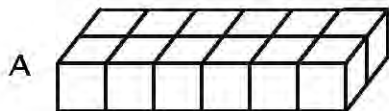
A $\frac{1}{952}$

B $\frac{17}{56}$

C $3\frac{5}{17}$

D 952

- 10 In her math class, Carla used unit cubes to build a right rectangular prism with a volume of 24 cubic units. The height of the prism was two units. Which figure could be the bottom layer of the prism?



13

Bettina spent \$75 on 5 shirts that each cost the same price. Three of the shirts were red. Which expression represents the total cost of the red shirts?

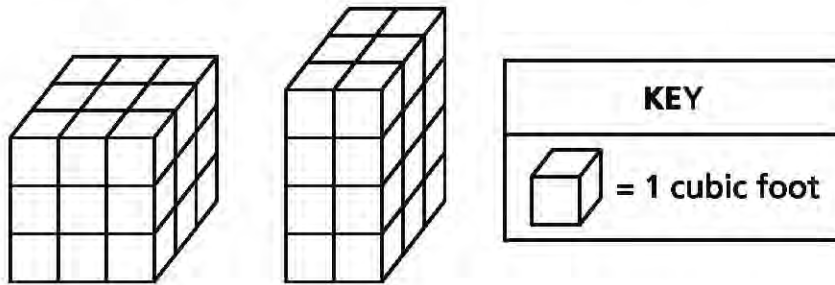
A $75 \times \frac{3}{5}$

B $75 \times \frac{5}{3}$

C $\frac{75}{5} \times \frac{1}{3}$

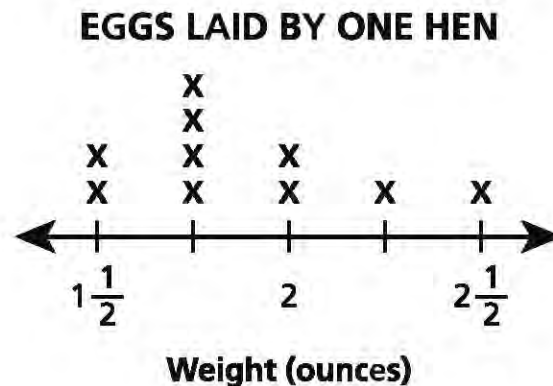
D $\frac{75}{3} \times \frac{1}{5}$

- 14 The two right rectangular prisms below have different volumes.



What is the difference in volume, in cubic feet, of the two prisms?

- A 1
B 3
C 6
D 9
- 15 The line plot shows the weights of ten eggs laid by one hen.



What is the total weight, in ounces, of the four heaviest eggs?

- A 4
B 7
C $8\frac{1}{2}$
D $8\frac{3}{4}$

GO ON

- 16 The table below lists the capacity, in quarts, of four different fish tanks at a pet store.

FISH TANK CAPACITY

Fish Tank	Capacity (quarts)
Pacific	240
Fresh	15
Tropic	120
Bahama	60

Which fish tank has a capacity of 60 gallons?

- A Pacific
 - B Fresh
 - C Tropic
 - D Bahama
- 17 Which number sentence is true?

- A $0.35 > 0.36$
- B $0.3 < 0.04$
- C $0.3 > 0.20$
- D $0.75 < 0.7$

Mr. Hinckley owns 83 acres of land. He divides the land into eight equal sections to sell to eight buyers. Which phrase describes how much land, in acres, each buyer will receive?

- A more than 9 and less than 10
- B more than 10 and less than 11
- C more than 11 and less than 12
- D more than 12 and less than 13

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Book 2



TIPS FOR TAKING THE TEST

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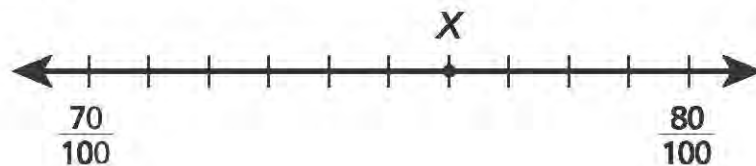
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- You have been provided with mathematics tools (a ruler and a protractor) and a reference sheet to use during the test. It is up to you to decide when each tool and the reference sheet will be helpful. You should use mathematics tools and the reference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

- 23 What is the value of the expression below?

$$8 + 24 \div (2 \times 6) - 4$$

- A 92
 - B 76
 - C 11
 - D 6
- 24 Parallelograms **always** belong to which category of shapes?
- A squares
 - B rectangles
 - C rhombuses
 - D quadrilaterals

- 25 Which decimal **best** represents the location of point X on the number line below?



- A 0.076
- B 0.077
- C 0.76
- D 0.77

GO ON

26 What is $1,748 \div 38$?

- A 41
- B 43
- C 46
- D 48

27 The table shows the number of computers donated to a school by each of 4 companies.

COMPUTERS DONATED TO A SCHOOL

Company	Number of Computers
A	25
B	40
C	25
D	30

All the donated computers were shared equally by 5 classrooms. Which expression represents the number of computers each classroom received?

- A $120 \times \frac{5}{4}$
- B $120 \times \frac{1}{4}$
- C $120 \times \frac{4}{5}$
- D $120 \times \frac{1}{5}$

28

Which expression is equivalent to 83,120 in expanded form using powers of 10?

- A $(8 \times 10^5) + (3 \times 10^4) + (1 \times 10^3) + (2 \times 10^2)$
- B $(8 \times 10^4) + (3 \times 10^3) + (1 \times 10^3) + (2 \times 10^2)$
- C $(8 \times 10^4) + (3 \times 10^3) + (1 \times 10^2) + (2 \times 10^1)$
- D $(8 \times 10^1) + (3 \times 10^1) + (1 \times 10^1) + (2 \times 10^1)$

29

Which measurement is equivalent to 3 meters?

- A 9 centimeters
- B 36 centimeters
- C 100 centimeters
- D 300 centimeters

30

Mr. Davis is creating a spice mixture for a recipe.

- $\frac{2}{5}$ of the spice mixture was oregano
- $\frac{1}{3}$ of the spice mixture was basil

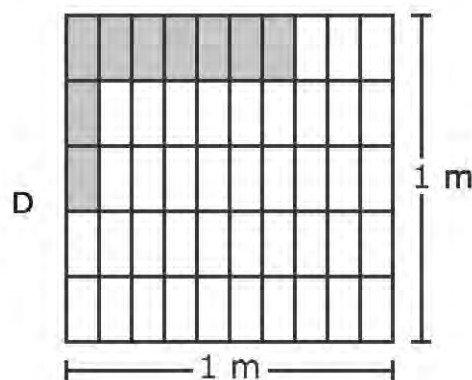
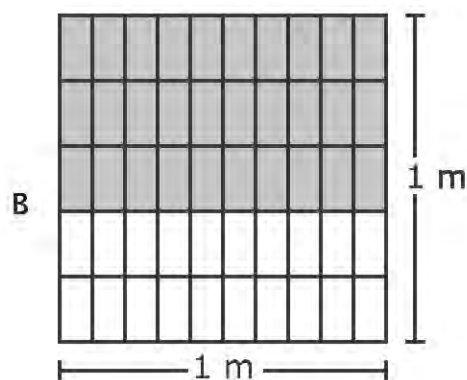
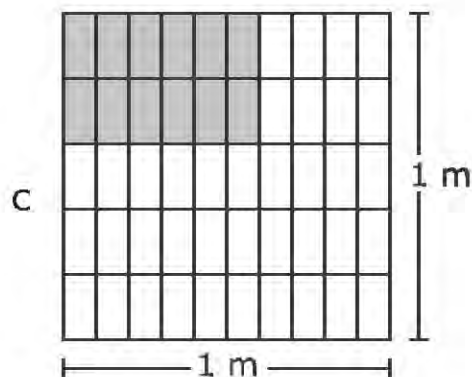
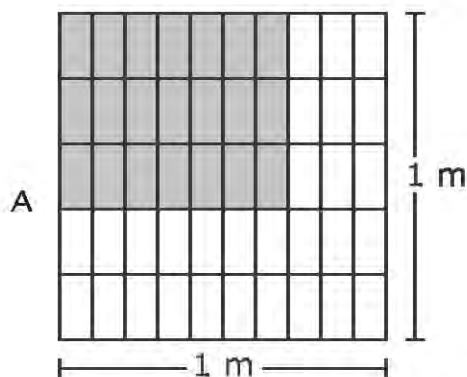
The remaining spice mixture was chili powder. What fraction of the total amount of spice mixture was oregano and basil?

- A $\frac{4}{15}$
- B $\frac{3}{8}$
- C $\frac{5}{8}$
- D $\frac{11}{15}$

GO ON

40

Which model shows one way to determine the area of a rectangle that is $\frac{7}{10}$ meter long and $\frac{3}{5}$ meter wide?



41

A swimming pool is shaped like a right rectangular prism. The pool is 36 feet long and 20 feet wide. What is the total amount of water, in cubic feet, needed to fill the pool to a depth of 4 feet?

- A 800
- B 864
- C 2,880
- D 5,760

Kim's class voted on a location for a field trip.

- $\frac{3}{4}$ of the class voted for the museum
- $\frac{1}{8}$ of the class voted for the zoo

The rest of the class voted for the nature park.

What fraction of the class voted for the nature park?

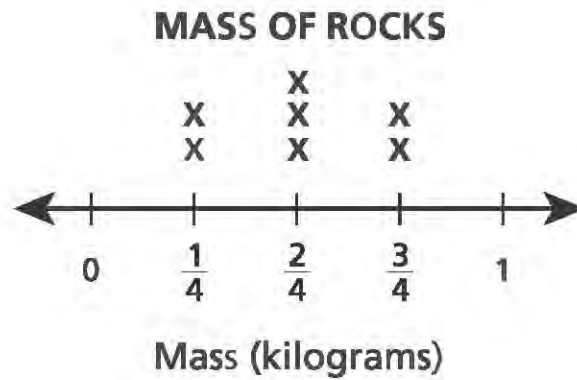
A $\frac{1}{8}$

B $\frac{1}{2}$

C $\frac{5}{8}$

D $\frac{7}{8}$

- 43 Jen determined the masses of 7 rocks. She recorded the mass of each rock on the line plot below.



What is the total mass, in kilograms, of the 7 rocks?

- A $1\frac{5}{8}$
- B $1\frac{1}{2}$
- C $3\frac{1}{4}$
- D $3\frac{1}{2}$
- 44 To feed his plants, Logan creates a mixture that requires $\frac{3}{8}$ cup of plant food for every gallon of water. If he uses $10\frac{1}{2}$ gallons of water, what is the total amount of plant food he needs?

- A $3\frac{15}{16}$ cups
- B $6\frac{3}{10}$ cups
- C $10\frac{3}{16}$ cups
- D $10\frac{7}{8}$ cups

45 Which expression is equivalent to $4 + [4 \times (5 - 2)] \div 2$?

A $4 + 12 \div 2$

B $4 + 18 \div 2$

C $8 \times 3 \div 2$

D $8 \times 5 - 1$

STOP

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New York State Testing Program

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- Be sure to show your work when asked.
- Plan your time.

46

Rearrange the numbers below so that they are listed in numerical order from least to greatest.

34.039 32.94 34.198 32.102 33.6

Answer _____
Least _____ Greatest

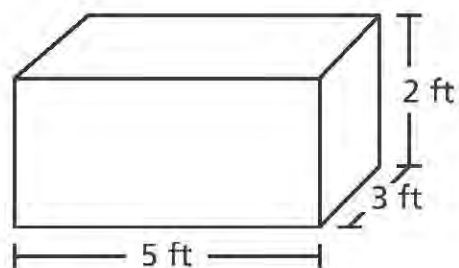
The number 33.01 is added to the list so that the new list is still in numerical order. Between which two numbers should 33.01 be placed?

Answer Between _____ and _____

GO ON

47

A toy company uses the box shown below to package wooden cubes.



Each wooden cube has a volume of $\frac{1}{8}$ cubic foot. In total, how many wooden cubes will fit in the box?

Show your work.

Answer _____ wooden cubes

GO ON

48

A library had 6,422 music CDs stored on 26 shelves. If the same number of CDs were stored on each shelf, how many CDs were stored on each shelf?

Show your work.

Answer _____ CDs

GO ON

49

Describe the relationship between n and 4 that will make the value of the expression $7 \times \frac{n}{4}$ greater than 7.

Answer

Describe the relationship between a and b that will make the value of the expression $7 \times \frac{a}{b}$ equal to 7.

Answer

Rosalva and Jake walked a certain distance each day. They recorded the distances in the table shown below.

DISTANCE WALKED

	Rosalva (kilometers)	Jake (meters)
Monday	1.5	1,450
Tuesday	0.69	1,590
Wednesday	1.04	1,204
Thursday	2.1	1,977
Total		

What is the difference, in meters, between Rosalva's and Jake's total distances walked over the four days?

Show your work.

Answer _____ meters

GO ON

Antoine wrote the expressions shown below.

- Expression A: $4 \times [(1.5 + 100.25) \times 3.65]$
- Expression B: $\square \times [(1.5 + 100.25) \times 3.65]$

The value of Expression B is eight times the value of Expression A. Without evaluating Expression A, determine what number belongs in the box in Expression B. Explain how you determined this number.

Show your work or explain how you determined this number.

Answer

Andy has a collection of movie DVDs. In Andy's collection,

- $\frac{3}{5}$ of the DVDs are "Action," and
- $\frac{1}{4}$ of the DVDs are "Comedy."

Andy said that $\frac{4}{9}$ of his collection is "Action" or "Comedy." Cynthia said that Andy made an error. Explain whether Andy is correct or incorrect and why.

What fraction of the DVDs in Andy's collection is not "Action" or "Comedy?"

Show your work.

Answer _____

GO ON

53

Molly bought 12.5 yards of fabric for \$4.50 a yard to make dog beds. She uses 2.5 yards of fabric for each dog bed. She sells each dog bed for \$17.50. After subtracting the cost of the fabric, how much money does Molly earn if she sells all of the dog beds?

Show your work.

Answer \$_____

GO ON

- 54 In a race that consisted of three parts, the cycling part was $12\frac{1}{2}$ miles long. The running part of the race was $\frac{1}{4}$ the distance of the cycling part. The kayaking part of the race was $\frac{1}{2}$ the distance of the running part. What was the entire distance, in miles, of the race?

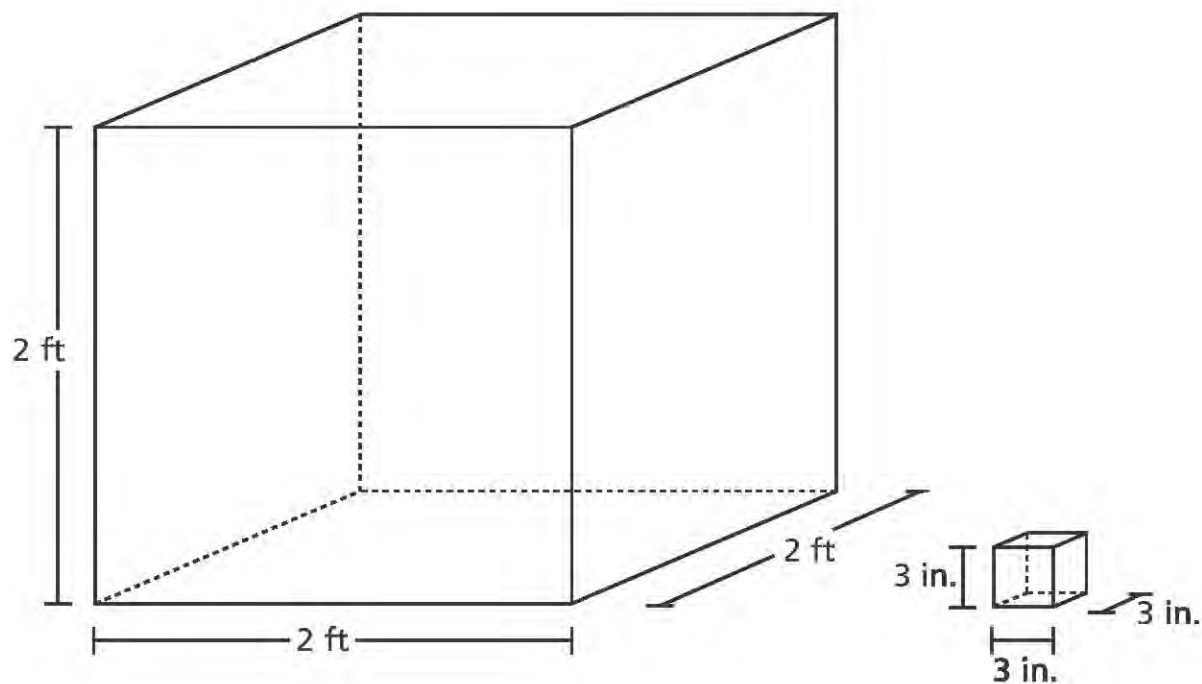
Show your work.

Answer _____ miles

GO ON

55

A company puts bottles of lotion into boxes that are three-inch cubes. The boxes were then packed into a shipping crate, shown below.



How many boxes of lotion were packed into the shipping crate to fill it completely?

Show your work.

Answer _____ boxes of lotion

STOP

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Place Student Label Here

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2016 Common Core
Mathematics Test
Book 3
April 13–15, 2016

THE STATE EDUCATION DEPARTMENT
THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

2016 Mathematics Tests Map to the Standards

Released Questions Available on EngageNY

Grade 5

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)
Book 1									
1	Multiple Choice	D	1	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten		0.57		
2	Multiple Choice	B	1	CCSS.Math.Content.5.NF.A.1	Number and Operations— Fractions		0.64		
3	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten		0.86		
4	Multiple Choice	B	1	CCSS.Math.Content.5.NF.A.2	Number and Operations— Fractions		0.64		
5	Multiple Choice	D	1	CCSS.Math.Content.5.G.B.4	Geometry		0.68		
9	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.7b	Number and Operations— Fractions		0.45		
10	Multiple Choice	A	1	CCSS.Math.Content.5.MD.C.3b	Measurement and Data	CCSS.Math.Content.5.MD.C.3a	0.61		
13	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.4a	Number and Operations— Fractions		0.71		
14	Multiple Choice	B	1	CCSS.Math.Content.5.MD.C.4	Measurement and Data		0.64		
15	Multiple Choice	D	1	CCSS.Math.Content.5.MD.B.2	Measurement and Data	CCSS.Math.Content.5.NF.A.1	0.38		
16	Multiple Choice	A	1	CCSS.Math.Content.5.MD.A.1	Measurement and Data		0.49		
17	Multiple Choice	C	1	CCSS.Math.Content.4.NF.C.7	Number and Operations in Base Ten		0.62		
18	Multiple Choice	B	1	CCSS.Math.Content.5.NF.B.3	Number and Operations— Fractions		0.56		
Book 2									
23	Multiple Choice	D	1	CCSS.Math.Content.5.OA.A.1	Operations and Algebraic Thinking		0.75		
24	Multiple Choice	D	1	CCSS.Math.Content.5.G.B.4	Geometry		0.57		
25	Multiple Choice	C	1	CCSS.Math.Content.4.NF.C.6	Number and Operations in Base Ten		0.74		
26	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten		0.78		
27	Multiple Choice	D	1	CCSS.Math.Content.5.NF.B.4a	Number and Operations— Fractions		0.46		
28	Multiple Choice	C	1	CCSS.Math.Content.5.NBT.A.2	Number and Operations in Base Ten	CCSS.Math.Content.5.OA.A.1	0.62		

Grade 5

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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)
29	Multiple Choice	D	1	CCSS.Math.Content.4.MD.A.1	Measurement and Data		0.63		
30*	Multiple Choice			* Based on statistical analyses, it has been determined that this question will not be counted in determining students' test scores.					
40	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.4b	Number and Operations— Fractions		0.60		
41	Multiple Choice	C	1	CCSS.Math.Content.5.MD.C.5b	Measurement and Data		0.72		
42	Multiple Choice	A	1	CCSS.Math.Content.5.NF.A.2	Number and Operations— Fractions		0.50		
43	Multiple Choice	D	1	CCSS.Math.Content.5.MD.B.2	Measurement and Data		0.52		
44	Multiple Choice	A	1	CCSS.Math.Content.5.NF.B.6	Number and Operations— Fractions		0.37		
45	Multiple Choice	A	1	CCSS.Math.Content.5.OA.A.1	Operations and Algebraic Thinking		0.74		
Book 3									
46	Constructed Response		2	CCSS.Math.Content.5.NBT.A.3	Number and Operations in Base Ten			1.17	0.59
47	Constructed Response		2	CCSS.Math.Content.5.NF.B.7c	Number and Operations— Fractions	CCSS.Math.Content.5.MD.C.5		1.02	0.51
48	Constructed Response		2	CCSS.Math.Content.5.NBT.B.6	Number and Operations in Base Ten			1.42	0.71
49	Constructed Response		2	CCSS.Math.Content.5.NF.B.5b	Number and Operations— Fractions			0.91	0.45
50	Constructed Response		2	CCSS.Math.Content.5.MD.A.1	Measurement and Data	CCSS.Math.Content.5.NBT.B.7		0.80	0.40
51	Constructed Response		2	CCSS.Math.Content.5.OA.A.2	Operations and Algebraic Thinking			1.14	0.57
52	Constructed Response		3	CCSS.Math.Content.5.NF.A.2	Number and Operations— Fractions			1.53	0.51
53	Constructed Response		3	CCSS.Math.Content.5.NBT.B.7	Number and Operations in Base Ten			0.73	0.24
54	Constructed Response		3	CCSS.Math.Content.5.NF.B.6	Number and Operations— Fractions	CCSS.Math.Content.5.NF.A.1		0.61	0.20
55	Constructed Response		3	CCSS.Math.Content.5.MD.C.5b	Measurement and Data	CCSS.Math.Content.5.MD.A.1		0.60	0.20

*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.