SpiralEd Solutions

5th Grade Spirals

SpiralEd Solutions
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Spiral 1

1 (5.2B)

Which of the following statements is NOT true?

A 6.02 < 6.2

B 2.060 = 2.006

C 26.002 < 26.02

D 2.062 > 2.06

2 (5.2B)

Which symbol correctly completes the comparison?

5.051 ☐ 5.150

F +

G >

H <

J =

3 (5.2A)

The length of a pencil in centimeters is shown in expanded notation.

(1 x 10) + (8 x 1) + (2 x 0.1)

How is this number in centimeters written in standard form?

A 182 cm

B 18.02 cm

C 18.2 cm

D 1.82 cm

Spiral 2

1 (5.2B)

Which list does NOT show the numbers in order from least to greatest?

F 5.007 < 5.07 < 5.7 < 5.75

G 3.106 < 3.16 < 3.61 < 6.31

H 4.106 < 4.16 < 4.601 < 4.61

J 0.604 < 0.64 < 0.46 < 0.406

2 (5.2C)

A ruby-throat hummingbird has a mass of 3.618 grams. What is its mass rounded to the nearest tenth?

A 3.62 grams

B 3.6 grams

C 3.5 grams

D 3.61 grams

3 (5.2B)

Which symbol correctly completes the comparison?

4.044 ☐ 4.44

F +

G >

H <

J =

Spiral 3

1 (5.2B)

April compared the values of these decimals.

0.003 0.30 0.030 0.03 0.3

Which statement correctly compares two of these numbers?

A 0.003 > 0.030 **B** 0.03 < 0.030

C 0.030 > 0.003 **D** 0.3 = 0.03

2 (5.2A)

The amount of rainfall measured in Houston in July was 7.06 inches. How is this amount written in expanded notation?

F (7 x 1) + (6 x 0.01) **G** (7 x 1) + (6 x 0.1)

H (7 x 10) + (6 x 0.01) **J** (7 x 1) + (6 x 0.001)

3 (5.2C)

Which number would be 3.84 when rounded to the nearest hundredth?

A 3.832 **B** 3.808

C 3.475 **D** 3.836

Spiral 4

1 (5.3A)

Students estimated the number of jelly beans in a jar. Student estimates are shown below.

Name	Estimate
Franklin	599
Jasmine	1,186
Eli	815
Benson	2,421

Which statement is NOT supported by this information?

F Benson's estimate is approximately six times Franklin's estimate.

G Franklin's estimate is about 600 less than Jasmine's estimate.

H Benson's estimate is approximately three times Eli's estimate.

J Jasmine's estimate is about half of Benson's estimate.

2 (5.3B)

A trucker averaged 528 miles a day for 31 days. How far did the trucker drive in 31 days?

A 16,258

B 16,368

C 15,858

D 15,558

3 (5.3C)

Kimberly and her family drove 2,048 miles on their vacation. Their car averages 32 miles to the gallon. How many gallons of gas did they use?

F 84

G 59

H 69

J 64

Spiral 5

1 (5.3C)

Becca reads a book with 1,037 pages. If Becca reads 32 pages a day, how many days will it take her to complete the book?

A 32

B 45

C 33

D 46

2 (5.3B)

Summer camp costs $450 per week for each camper. How much will it cost to send 17 campers to summer camp?

F $7,550

G $6,750

H $7,650

J $6,950

3 (5.3A)

Menu

Park Treats	Cost
cheese sandwich	$5.99
hotdog	$6.25
chips	$2.80
soda	$2.16
giant cookie	$3.99

While visiting the amusement park, the Smith family purchases six hotdogs, one cheese sandwich, four bags of chips, four sodas, and one giant cookie.

What is the best estimate of how much the Smith family spent on food?

A $58.00

B $68.00

C $66.00

D $52.00

Spiral 6

1 (5.3C)

The cost of a shade cover for the new playground is $2,368. Each of 16 classes split the cost equally. How much does each class need to raise to pay for the cover?

F $213

G $148

H $163

J $158

2 (5.3A)

A student was given the problem shown.

(82 x 58) + 296

What is the best estimate for the solution to the problem?

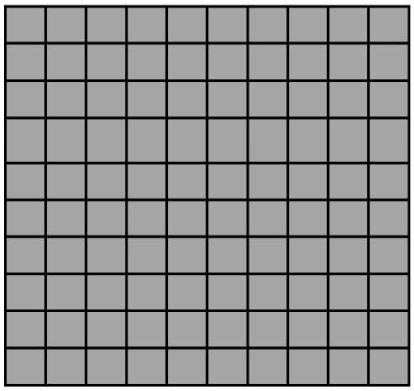
A 5,100

B 7,000

C 4,800

D 5,300

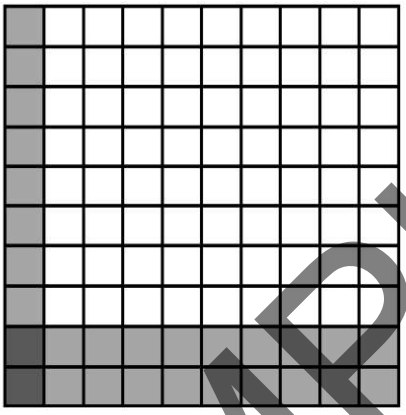
3 (5.3D)



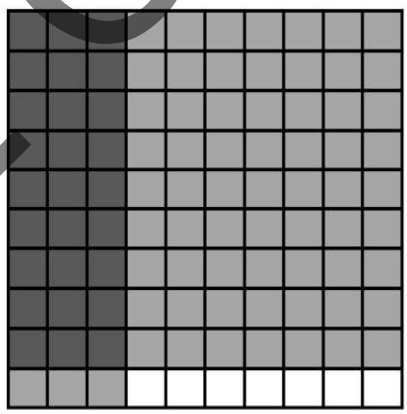
If the model above represents one whole, which model represents this equation?

$$0.3 \times 0.9 = 0.27$$

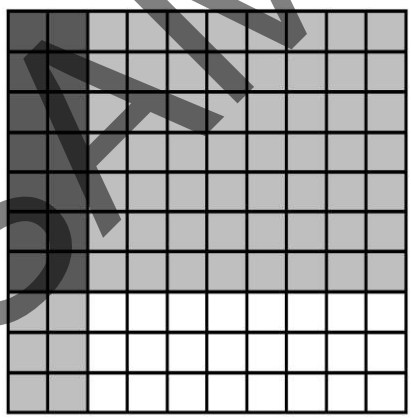
F



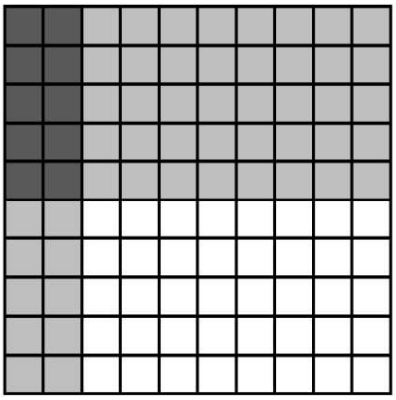
G



H

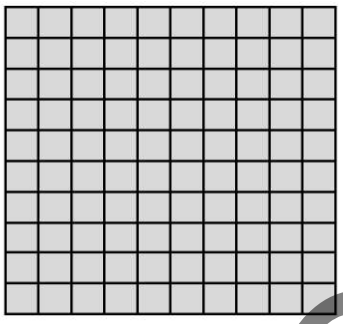


J

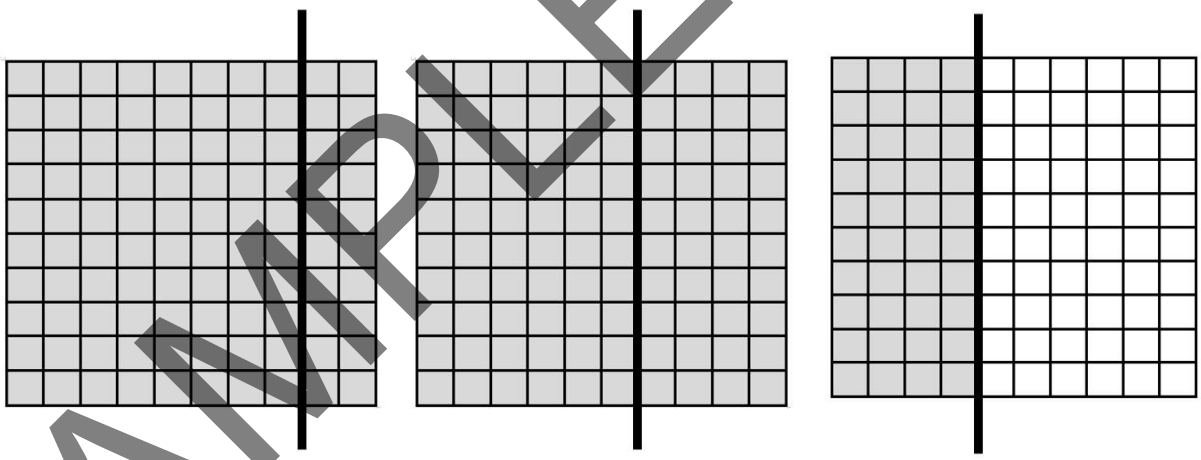


Spiral 7

1 (5.3D)



If the model above represents one whole, which equation is represented by the model below?



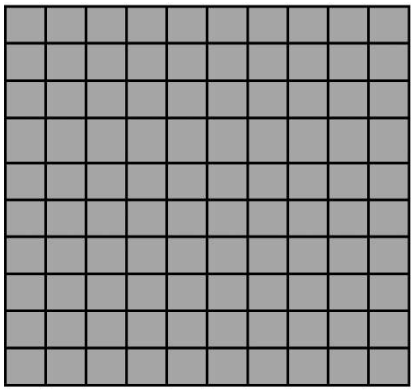
A 3 x 0.08 = 0.24

B 3 x 8 = 24

C 3 x 0.8 = 2.4

D 3 x 0.8 = 0.24

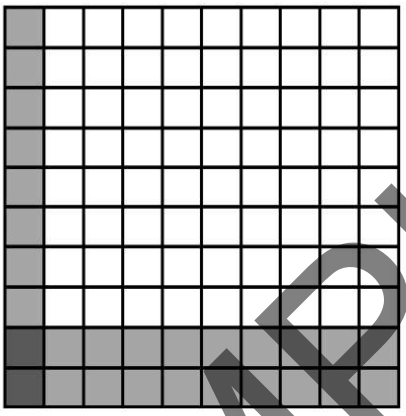
2 (5.3D)



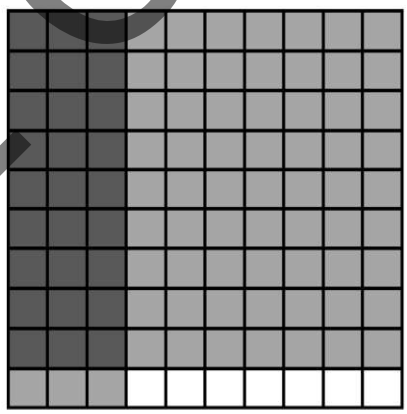
If the model above represents one whole, which model represents this equation?

$$0.1 \times 0.2 = 0.02$$

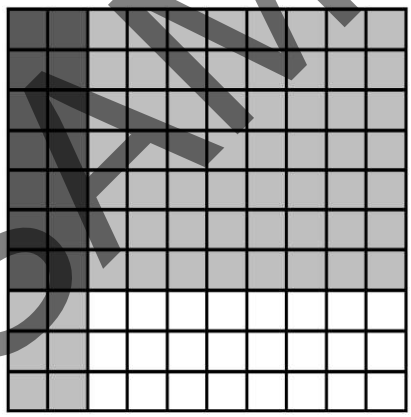
F



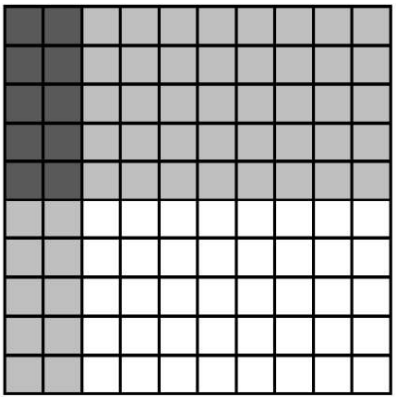
G



H



J



3 (5.3E)

A snail travels at an average rate of 0.3 meters per minute. At this rate how far can the snail travel in 12.5 minutes?

A 37.5 meters

B 375 meters

C 3.75 meters

D 0.375 meters

Spiral 8

1 (5.3E)

The trail through the park is 1.35 miles long. If a runner runs the trail twice a day for 15 days, how far does he run?

F 40.5 miles

G 20.25 miles

H 2.7 miles

J 10.13 miles

2 (5.3E)

The school is 1.3 miles from Roger's house. If Roger walks to and from school each day, how far does he walk each 5-day week?

A 7.5 miles

B 12.5 miles

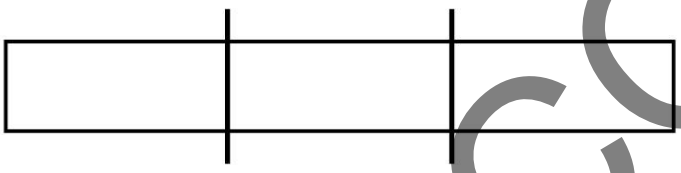
C 13 miles

D 8 miles

3 (5.3F)

A board is 3.4 meters long. A carpenter cut the board into three equal lengths.

Which expression represents the lengths of each of the smaller boards?



F 3.4 ÷ 3

G 3.4 x 3

H 3 ÷ 3.4

J 3.4 + 3

Spiral 9

1 (5.2B)

Miguel compared the values of these decimals.

0.012 1.002 2.100 0.021 0.201

Which statement does NOT correctly compare two of these numbers?

A 0.012 < 0.021

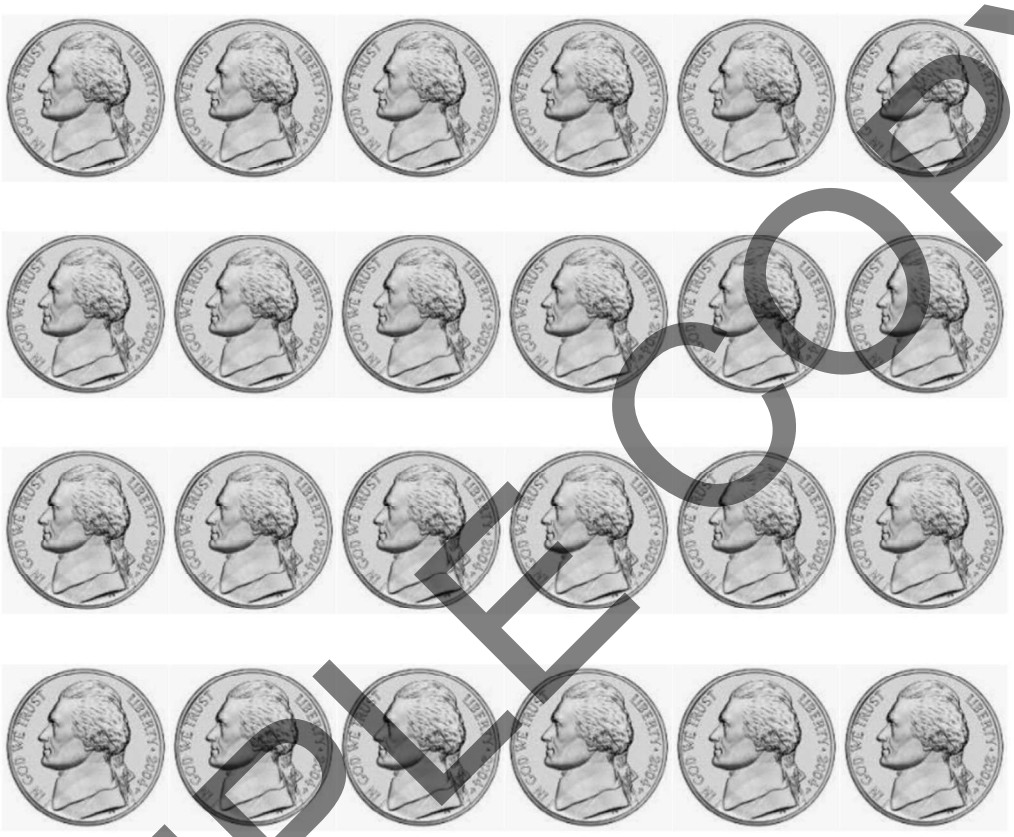
B 1.002 > 0.201

C 2.100 > 1.002

D 0.201 < 0.012

2 (5.3F)

Andrea has $1.20 in nickels. She spent all of this money on four pieces of candy. She spent the same amount for each piece.



Which expression can be used to find the amount of money Andrea spent for each piece of candy?

F 4 ÷ 1.2

G 1.2 ÷ 4

H 1.2 + 4

J 4 x 1.2

3 (5.3A)

Menu

Park Treats	Cost
cheese sandwich	$5.99
hotdog	$6.25
chips	$2.80
soda	$2.16
giant cookie	$3.99

Trinity has $20.00 to spend on food at the amusement park. She looks at the menu and decides that she can buy 2 cheese sandwiches, a bag of chips, and a soda.

Which is the best estimate of the amount of money Trinity will have left?

A $1.00

B $3.00

C $9.00

D $5.00

Spiral 10

1 (5.3B)

Each men's dress shirt has 16 buttons. How many buttons are needed to manufacture 572 dress shirts?

F 8,122

G 9,362

H 9,425

J 9,152

2 (5.3E)

What is the product of 2.4 and 3.6?

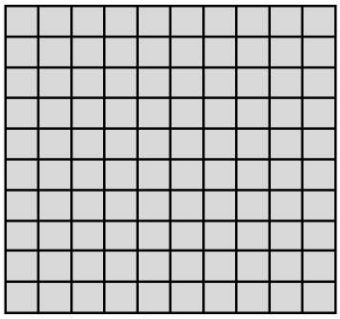
A 8.64

B 6

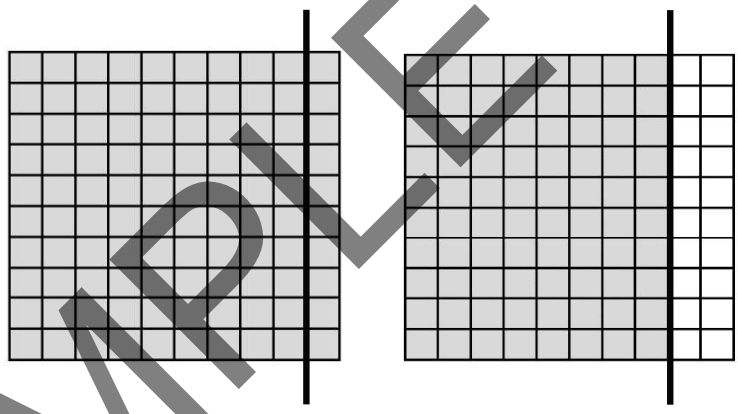
C 6.64

D 5

3 (5.3F)



If the model above represents one whole, which equation is represented by the model below?



F 1.8 + 0.9 = 2

G 1.8 ÷ 2 = 0.9

H 1.8 x 2 = 0.9

J 2 ÷ 1.8 = 0.9

Spiral 11

1 (5.3G)

A board was 100.8 inches long. Reagan cut the board into 12 equal lengths. What was the length of each piece of board in inches?

A 8.4 inches

B 8.1 inches

C 7.8 inches

D 209.6 inches

2 (5.3G)

What is the quotient when 45.54 is divided by 9?

F 5.6

G 5.06

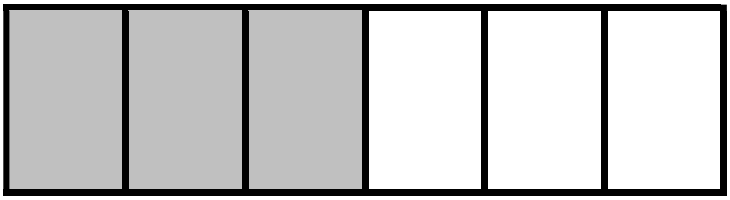
H 56.0

J 6.05

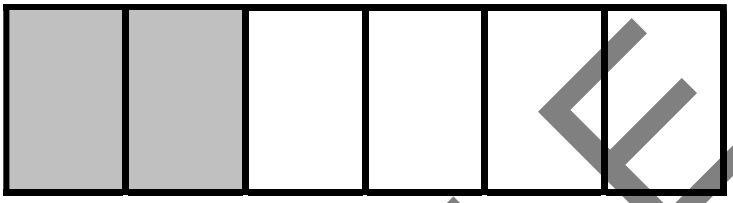
3 (5.3H)

Bethany and Andrea shared a candy bar. The models are shaded to show the fraction of the candy bar each of them ate.

Bethany



Andrea



Which equation does the model represent?

A $\frac{1}{3}+\frac{1}{2}=\frac{1}{6}$

B $\frac{1}{4}+\frac{1}{6}=\frac{5}{6}$

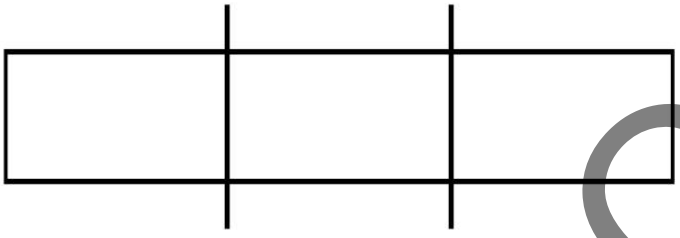
C $\frac{1}{3}+\frac{1}{2}=\frac{5}{6}$

D $1-\frac{1}{6}=\frac{1}{2}$

Spiral 12

1 (5.3F)

A candy bar is 16.2 centimeters long. Jamie cuts the candy bar into three equal pieces.



What is the length of each piece?

F 4.5 cm

G 19.2 cm

H 5.4 cm

J 48.6 cm

2 (5.3E)

A paperback book costs $3.75. If a teacher buys 12 copies for her classroom, what is the total cost for the 12 books?

A $37.50

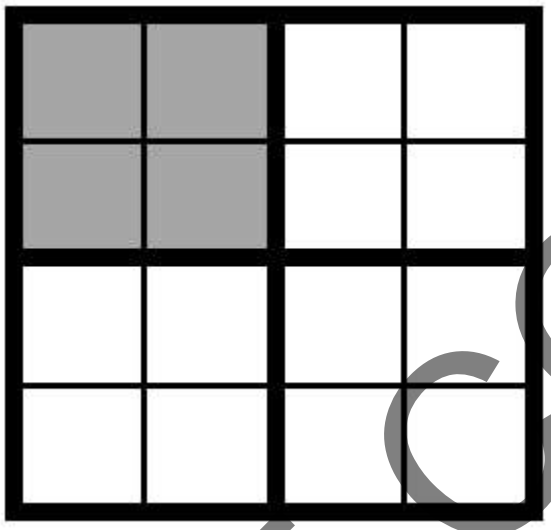
B $45.00

C $55.00

D $47.50

3 (5.3I)

Which expression is represented by the model?



F $\frac{1}{2} \times 16$

G $\frac{1}{4} \times 16$

H $\frac{1}{4} \times 12$

J $\frac{1}{3} \times 12$

Spiral 13

1 (5.3G)

A math problem is shown

$$5\overline{)111.1}$$

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.3H)

While playing a game, Riley Jones put his initials in several boxes on the game board, as shown. Thomas Wilson put his initials in other boxes.

RJ		TW	
	RJ		
		RJ	
TW			RJ

What fraction of the game board did the two players initial?

F $\frac{7}{16}$

G $\frac{5}{8}$

H $\frac{9}{16}$

J $\frac{3}{8}$

3 (5.2A)

A cyclist rode 205.35 kilometers. What is this distance in kilometers written in expanded notation?

A (2 x 10) + (5 x 1) + (3 x 0.1) + (5 x 0.01)

B (2 x 100) + (5 x 10) + (3 x 0.1) + (5 x 0.01)

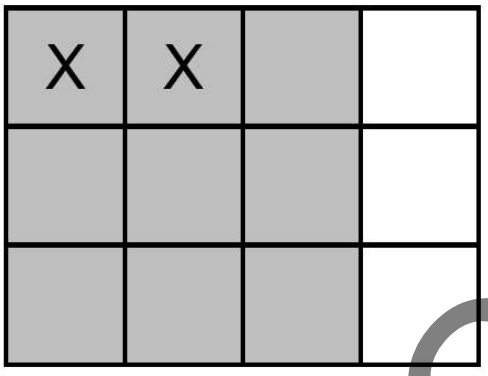
C (2 x 100) + (5 x 1) + (3 x 0.1) + (5 x 0.01)

D (2 x 100) + (5 x 1) + (3 x 0.01) + (5 x 0.001)

Spiral 14

1 (5.3H)

The model represents one fraction being subtracted from another.



Which expression is represented by the model?

F $\frac{7}{9} - \frac{1}{6}$

G $\frac{3}{4} - \frac{2}{9}$

H $\frac{1}{6} - \frac{3}{4}$

J $\frac{3}{4} - \frac{1}{6}$

2 (5.3C)

The school cafeteria purchases plastic forks in boxes of 1,200. If the students use 86 forks each lunch period, how many complete lunch periods can one box of forks serve?

A 13

B 12

C 14

J 15

3 (5.3G)

Gracie paid $99.99 for a three-month gym membership. She paid the same amount each month. How much did Gracie pay each month?

F $33.03

G $33.33

H $3.30

J $3.33

Spiral 15

1 (5.2C)

Which number would NOT be 52.8 when rounded to the nearest tenth?

A 52.86

B 52.843

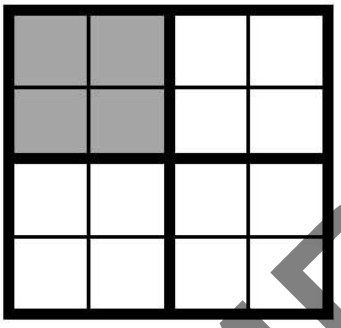
C 52.781

D 52.75

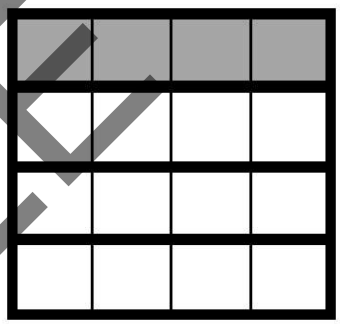
2 (5.3I)

Which model does NOT represent $\frac{1}{4} \times 16$?

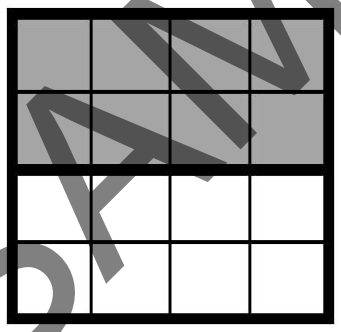
F



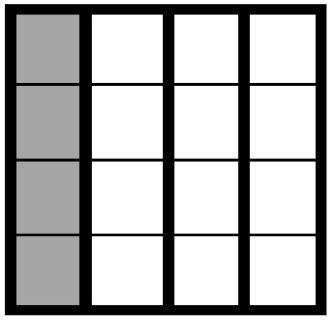
G



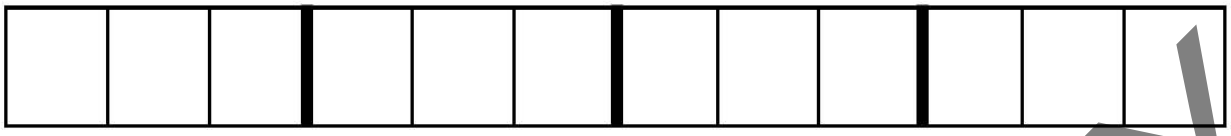
H



J



3 (5.3J)



Which expression does the model represent?

A $4 \div \frac{1}{3}$

B $4 \div 3$

C $3 \div \frac{1}{4}$

D $\frac{1}{12} \div 4$

Spiral 16

1 (5.3J)

Which equation does the model represent?

F $3 \div \frac{1}{6} = 18$

G $6 \div \frac{1}{3} = 18$

H $18 \div \frac{1}{6} = 3$

J $6 \div 18 = 3$

2 (5.4A)

Mrs. Thompson asked students to write the prime numbers between 20 and 30. Her students' responses are shown.

- Alex 21, 23, 25, 27, 29
- Jaylen 23, 25, 29
- Kylie 23, 29
- Ray 21, 22, 24, 25, 26, 27, 28

Which student wrote the correct response?

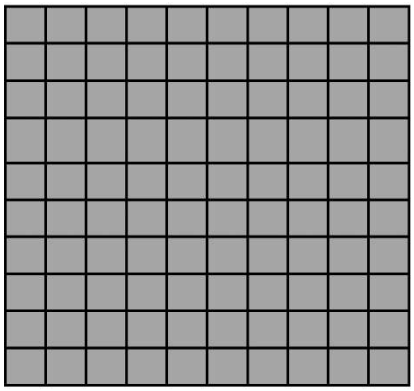
A Alex

B Jaylen

C Kylie

D Ray

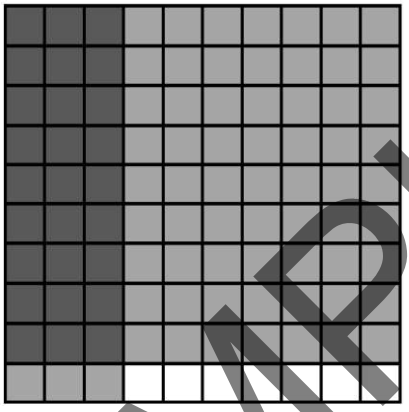
3 (5.3D)



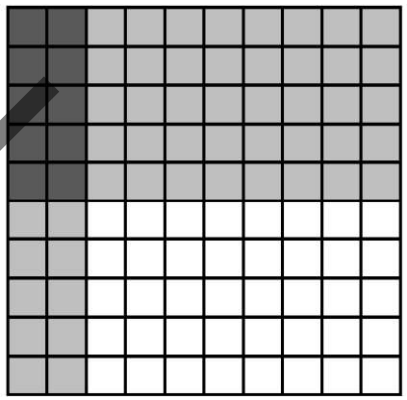
If the model above represents one whole, which model represents this equation?

$$0.2 \times 0.7 = 0.14$$

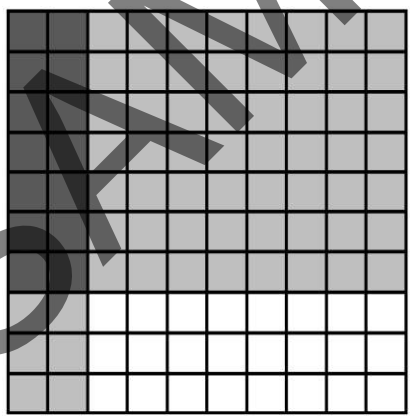
F



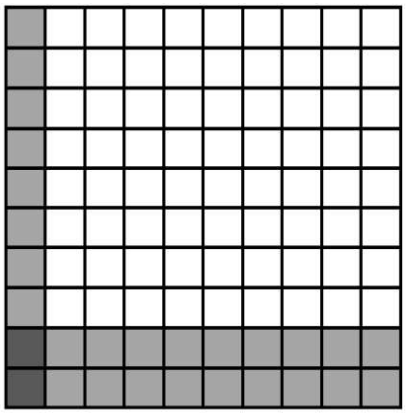
G



H



J



Spiral 17

1 (5.3G)

A math problem is shown

$$16\overline{)15.36}$$

What is the quotient?

A 0.94

B 0.86

C 0.96

D 0.06

2 (5.4A)

Which of these numbers is both even and prime?

F 2

G 9

H 3

J 22

3 (5.4E)

$$4 \times (5 + 2)$$
$$(4 \times 5) + 2$$

How do the parentheses affect the value of each expression?

A The value of the first expression is 28, while the value of the second expression is 22.

B The value of the first expression is 22, while the value of the second expression is 28.

C Both expressions have a value of 22.

D Both expressions have a value of 28.

Spiral 18

1 (5.4A)

Chris sorted a set of cards into prime and composite numbers.

prime	composite
43	57
31	21
17	30
15	

Which number did Chris place **incorrectly**?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
0	0	0		0	0
1	1	1		1	1
2	2	2		2	2
3	3	3		3	3
4	4	4		4	4
5	5	5		5	5
6	6	6		6	6
7	7	7		7	7
8	8	8		8	8
9	9	9		9	9

2 (5.4E)

$$24 \div 3 + 1$$
$$24 \div (3 + 1)$$

How do the parentheses affect the value of the second expression?

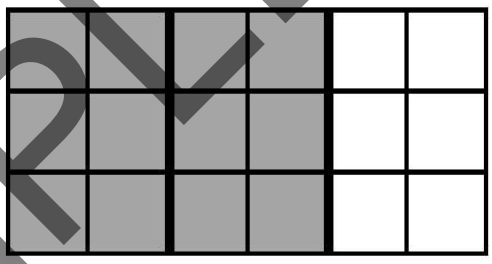
A The value of the first expression is 9, while the value of the second expression is 6.

B The value of the first expression is 6, while the value of the second expression is 9.

C The parentheses have no effect; the value of both expressions is 9.

D The parentheses have no effect; the value of both expressions is 6.

3 (5.3I)



Which expression is represented by the model?

F $\frac{2}{3} \times 18$

G $\frac{2}{3} \times 12$

H $\frac{1}{6} \times 18$

J $3 \times \frac{2}{3}$

Spiral 19

1 (5.4F)

For the football game, the trainer purchased sports drink for the players.

- five, 2.5-liter containers of orange
- four, 3-liter containers of fruit punch
- nine, 1-liter containers of berry

During the game, players drank 26.9 liters of sports drink.

The amount of sports drink remaining after the game is represented by the expression

$$[(5 \times 2.5) + (4 \times 3) + 9] - 26.9$$

How much sports drink remained after the game?

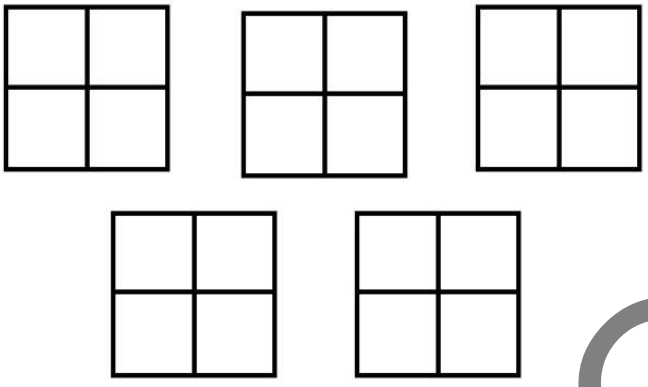
A 2.5 liters

B 7.3 liters

C 3.6 liters

D 6.6 liters

2 (5.3J)



Which equation does the model represent?

F $4 \div \frac{1}{5}$

G $\frac{1}{4} \div \frac{1}{5}$

H $20 \div \frac{1}{4}$

J $5 \div \frac{1}{4}$

3 (5.2C)

Which number would be 54.6 when rounded to the nearest tenth and 54.55 when rounded to the nearest hundredth?

A 54.563

B 54.548

C 54.558

D 54.552

Spiral 20

1 (5.2A)

Elaine purchased 6 spiral notebooks for $2.56 each during tax free weekend. Her total purchase came to $15.36. How is this amount written in expanded notation?

F (1 x 10) + (5 x 1) + (3 x 0.01) + (6 x 0.001)

G (1 x 10) + (5 x 1) + (6 x 0.1) + (3 x 0.01)

H (1 x 10) + (5 x 10) + (3 x 0.01) + (6 x 0.1)

J (1 x 10) + (5 x 1) + (3 x 0.1) + (6 x 0.01)

2 (5.4F)

Brad purchased clothes at the beginning of the school year.

- two pair of jeans at $45.00 each
- three long-sleeved shirts at $28.00 each
- five t-shirts at $17.00
- one pair of shoes at $98.00

He used a $50 gift card.

The amount Brad owed after applying the gift card is represented by the expression

$$[(2\times 45)+(3\times 28)+(5\times 17)+98]-50$$

How much did Brad owe after applying the gift card?

A $307.00

B $357.00

C $407.00

D $287.00

3 (5.4E)

Becca added parentheses and brackets to the expression

$$8+3\times4-2+7$$

The value of the new expression is 99.

Which is Becca's new expression?

F $(8+3)\times[(4-2)+7]$

G $(8+3)\times4-(2+7)$

H $8+3\times(4-2)+7$

J $[(8+3)\times(4-2)]+7$

Spiral 21

1 (5.4F)

A gardener waters each plant based on the water requirements for that plant. He uses 3 liters of water on each of 27 begonia plants, 4 liters of water on each of 15 plumbago plants, and 1 liter of water on each of 20 succulents. The amount of water he uses is represented by the expression

$$(3 \times 27) + (4 \times 15) + 20$$

How much water does the gardener use?

A 215 liters

B 161 liters

C 184 liters

D 136 liters

2 (5.3G)

A math problem is shown

$$25\overline{)21.25}$$

What is the quotient?

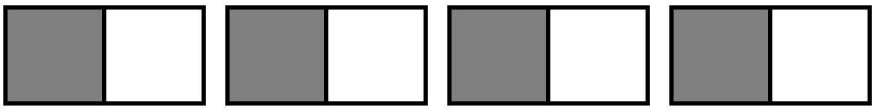
F 8.5

G 0.81

H 8.1

J 0.85

3 (5.3I)



Which equation is represented by the model?

A $2 \times \frac{1}{4} = \frac{1}{2}$

B $4 \times \frac{1}{2} = \frac{1}{8}$

C $4 \times \frac{1}{2} = 2$

D $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

Spiral 22

1 (5.4B)

The spring soccer league has 15 teams with 12 players on a team. League rules require an adult coach for every 4 players. The number of adult coaches (a) needed for the spring can be determined using the equation

$$15 \times (12 \div 4) = a$$

How many adult coaches are needed for the spring soccer league?

F 60

G 48

H 36

J 45

2 (5.4F)

Mr. Green ordered plants for his new yard.

- 6-dozen geraniums
- 4 cases of petunias with 18 plants in each case
- Two of the geraniums were crushed.
- Three petunias were too wilted to plant.

The number of usable plants is represented by the expression

$$[(6 \times 12) + (4 \times 18)] - (2 + 3)$$

How many usable plants did Mr. Green receive?

A 144 plants

B 89 plants

C 139 plants

D 128 plants

3 (5.3K)

The table shows the heights of the world's tallest mountains.

Mountain	Height in Kilometers
Everest	8.848 km
K2	8.611 km
Kangchenjunga	8.586
Lhotse	8.516
Makalu	8,485

How much taller is Mount Everest than Kangchenjunga?

F 0.272 km

G 0.242 km

H 0.262 km

J 0.362 km

.

Spiral 23

1 (5.3E)

A cyclist averages 18.2 kilometers per hour. How far does he travel in 2.5 hours?

A 46 km

B 20.7 km

C 405 km

D 45.5 km

2 (5.4E)

Jonathan added parentheses and brackets to the expression

$$8+3\times4-2+7$$

The value of the new expression is 29.

Which is Jonathan's new expression?

F $(8+3)\times[(4-2)+7]$

G $(8+3)\times4-(2+7)$

H $8+3\times(4-2)+7$

J $[(8+3)\times(4-2)]+7$

3 (5.4F)

The school owns 500 folding chairs for school events. For graduation the custodial staff arranged 20 rows of 22 chairs each. The remaining chairs were set aside for the school orchestra.

The number of chairs set aside for the school orchestra is represented by the expression

$$500 - (20 \times 22)$$

How many chairs were set aside for the school orchestra?

A 40 chairs

B 80 chairs

C 22 chairs

D 60 chairs

Spiral 24

1 (5.4H)

What is the area of a rectangle with a length of 12 inches and a width of $3\frac{1}{2}$ inches?

F 42 square inches

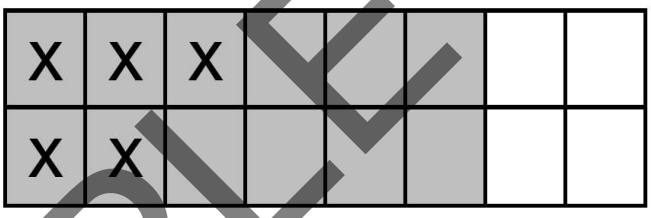
G 36 square inches

H 54 square inches

J 31 square inches

2 (5.3H)

The shaded part of the model represents a fraction. Another fraction was subtracted from the first fraction.



Which expression does the model represent?

A $\frac{3}{4} - \frac{5}{16}$

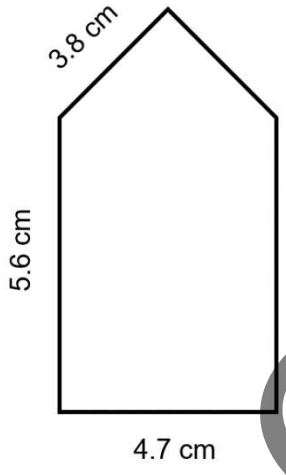
B $\frac{3}{4} - \frac{5}{12}$

C $\frac{5}{16} - \frac{3}{4}$

D $\frac{12}{16} - \frac{3}{4}$

3 (5.4H)

What is the perimeter of the figure shown?



F 28.2 cm

G 23.5 cm

H 14.1 cm

J 26.32 cm

Spiral 25

1 (5.2B)

Which symbol correctly completes the comparison?

$$2.30 \square 2.300$$

A =

B >

C <

D +

2 (5.4B)

A florist made bouquets for an upcoming wedding.

- 8 bridesmaids
- 8 roses in each bouquet
- $3.00 per rose
- $25 delivery fee

The florist can use the equation

$$8 \times 8 \times 3 + 25 = c$$

to determine the total cost (c) for the flowers.

What is the total cost for flowers for the bridesmaids?

F $217

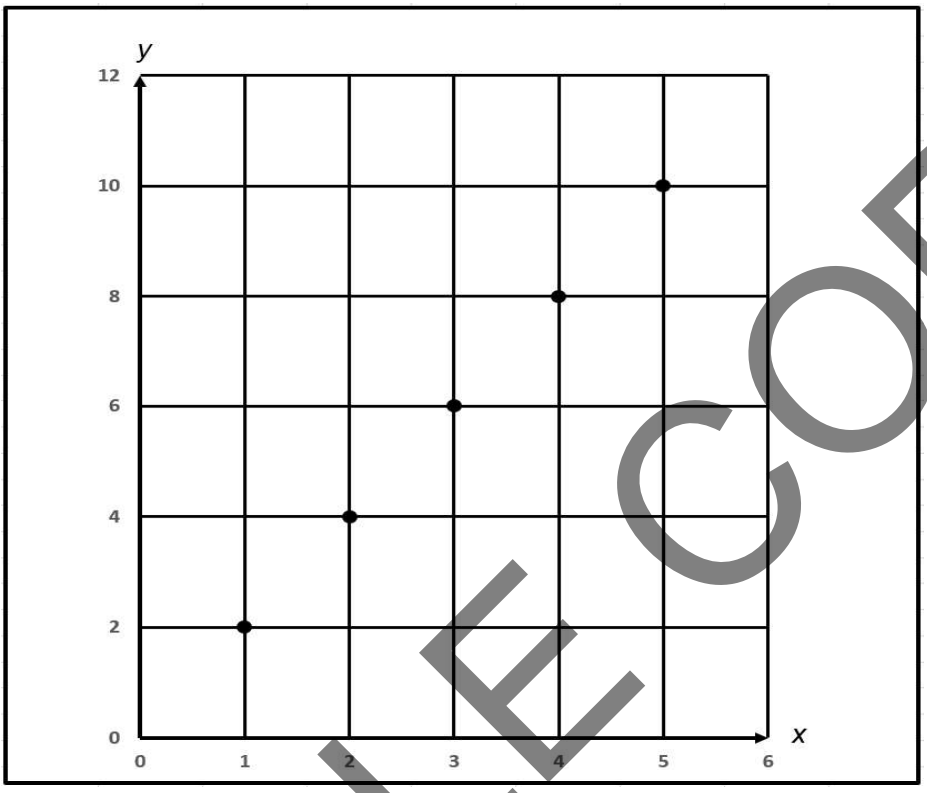
G $49

H $1,792

J $328

3 (5.4C)

The graph shown represents the rule $y = 2x$.



Which table contain only values that represent the rule?

A

x	y
0	2
1	4
2	6
3	8
6	14

B

x	y
0	0
1	2
2	4
3	6
6	12

C

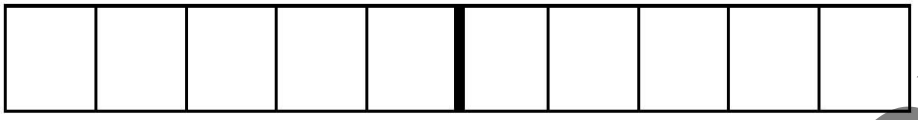
x	y
0	0
1	4
2	8
3	12
6	24

D

x	y
0	2
1	3
2	4
3	5
6	8

Spiral 26

1 (5.3J)



Which expression does the model represent?

F $10 \div \frac{1}{5}$

G $2 \div \frac{1}{5}$

H $5 \div \frac{1}{2}$

J $5 \div \frac{2}{5}$

2 (5.3G)

A piece of ribbon was 3.6 meters long. Jeremiah cut the ribbon into 9 equal lengths. What was the length of each piece of ribbon in meters?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

3 (5.3K)

The table shows the populations of the largest cities in Texas.

City	Population
Houston	2,296,224
San Antonio	1,469,845
Dallas	1,300,092
Austin	931,820
Ft. Worth	833,319

What is the total population of the five largest cities in Texas?

F 6,831,300

G 6,730,299

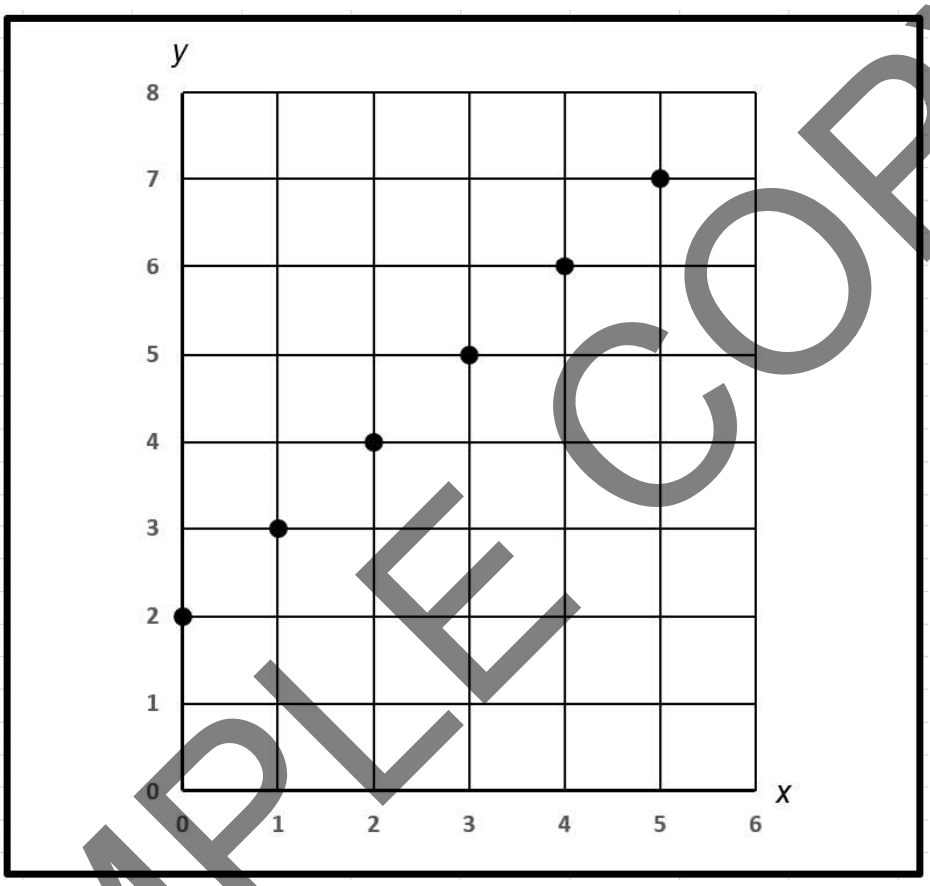
H 6,829,300

J 6,831,297

Spiral 27

1 (5.4D)

The graph represents a relationship between *x* and *y*.



The relationship between the *x*-values and the *y*-values creates a pattern that is —

A additive, because each *x*-value increases by 2.

B additive, because each *y*-value is determined by adding 2 to the corresponding x-value.

C multiplicative, because each *y*-value is determined by multiplying the corresponding x-value by 2.

D multiplicative, because each *x*-value is a multiple of 2.

2 (5.3E)

A hiking trail is 12.8 miles long. If a hiker completes the entire trail once a month for 18 months, how far does she hike?

F 216 miles

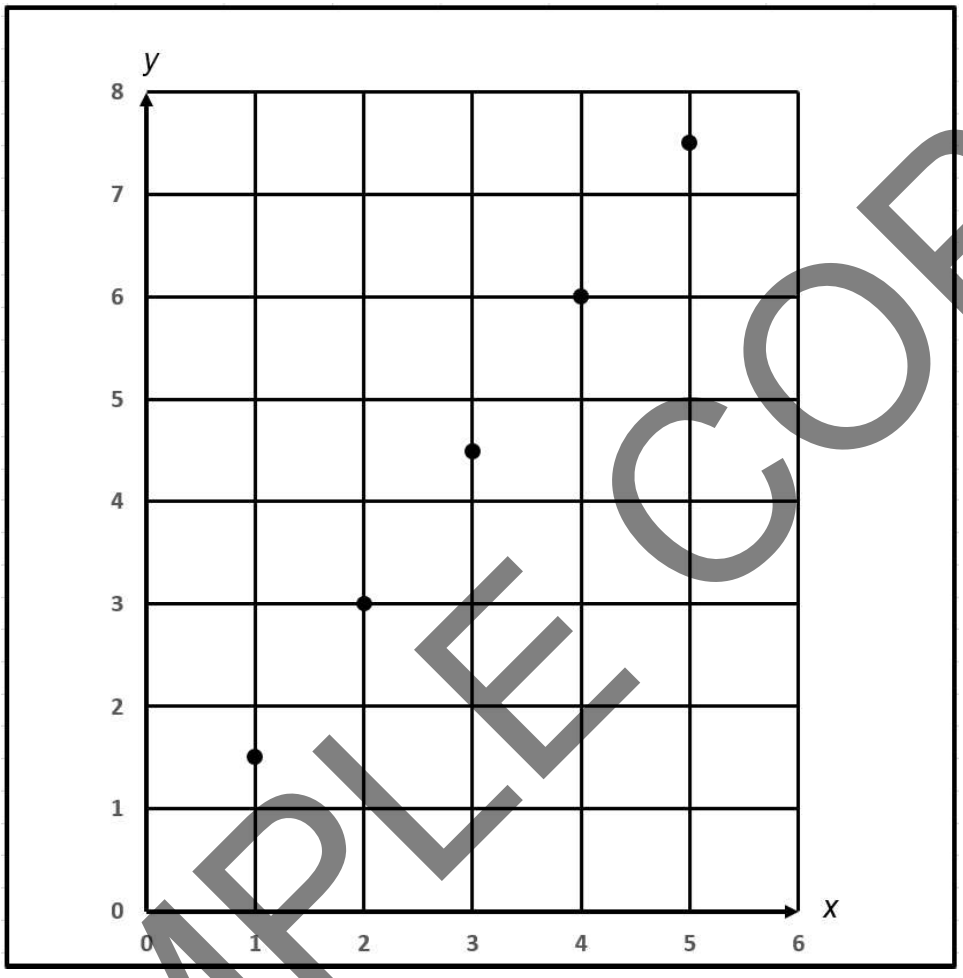
G 230.4 miles

H 21.6 miles

J 23.04 miles

3 (5.4D)

The graph represents a relationship between *x* and *y*.



The relationship between the *x*-values and the *y*-values creates a pattern that is —

A additive, because each *x*-value increases by 1.

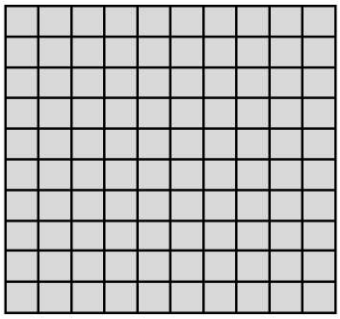
B additive, because each *y*-value is determined by adding 1.5 to the corresponding x-value.

C multiplicative, because each *x*-value is a multiple of 2.

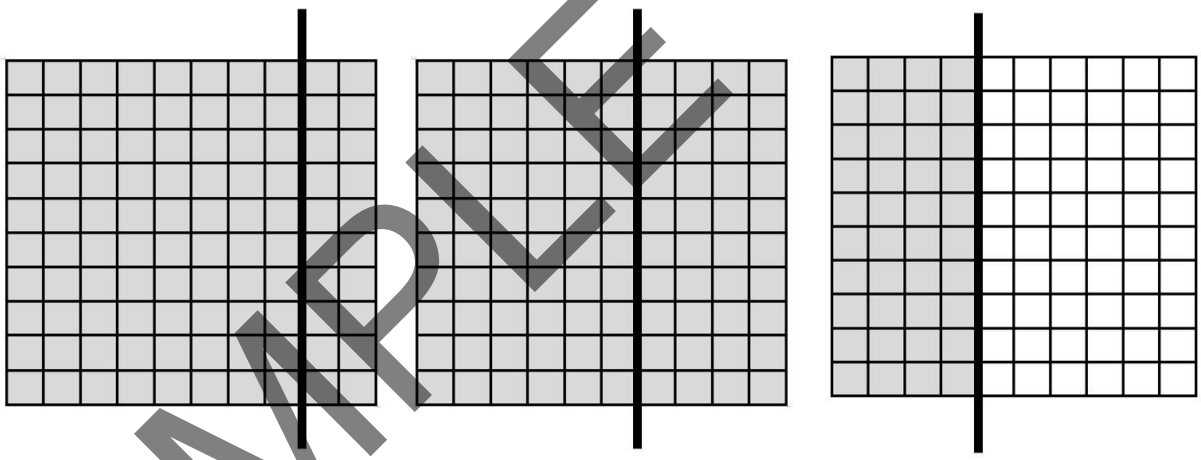
D multiplicative, because each *y*-value is determined by multiplying the corresponding x-value by 1.5.

Spiral 28

1 (5.3F)



If the model above represents one whole, which equation is represented by the model below?



F 2.4 ÷ 3 = 0.8

G 3 ÷ 0.8 = 2.4

H 2.4 x 3 = 0.8

J 2.4 + 0.8 = 3

2 (5.3A)

Party favors come in packages of 42. A party planner has a party for 312 people scheduled for Friday, 196 people scheduled for Saturday, and a party for 288 people scheduled for Sunday. Approximately how many packages of party favors should she purchase for the three parties?

A 15 packages

B 20 packages

C 24 packages

D 18 packages

3 (5.4A)

While playing a math game, the teacher gave students the following clues?

- The number is composite.
- The number is odd.
- The number is less than 45.
- The number is greater than 36.

Which of the following could be the answer?

F 39

G 37

H 55

J 41

Spiral 29

1 (5.4B)

The James family planned to travel 1,285 miles to Yellowstone National Park. The first day they drove 433 miles. They drove 380 miles on each of the next two days. They used the equation

$$1285 - 433 - (2 \times 380) = m$$

to determine the remaining miles (m) to Yellowstone.

How many miles remained to Yellowstone?

A 182

B 92

C 232

D 208

2 (5.4F)

Ginny baked and iced four cakes. Each cake used $1\frac{1}{2}$ cups of sugar for the cake and $3\frac{1}{4}$ cups of sugar for the icing. The total amount of sugar Ginny used is represented by the expression

$$4 \times (1\frac{1}{2} + 3\frac{1}{4})$$

How much sugar did Ginny use for the four cakes?

F 19 cups

G $18\frac{1}{2}$ cups

H 20 cups

J $19\frac{1}{4}$

3 (5.4C)

Which table represents the equation $y = 2.5x$?

A

x	y
0	0
1	2.5
2	3.5
3	4.5
6	7.5

B

x	y
0	0
3	7.5
5	12
6	15.5
9	23.5

C

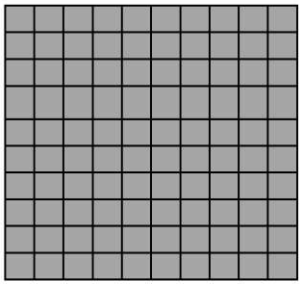
x	y
0	2.5
3	5.5
5	7.5
6	8.5
9	11.5

D

x	y
0	0
2	5
5	12.5
6	15
10	25

Spiral 30

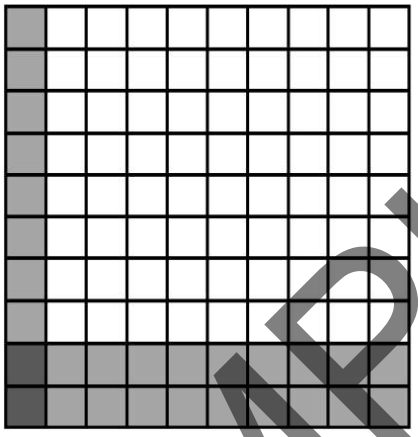
1 (5.3D)



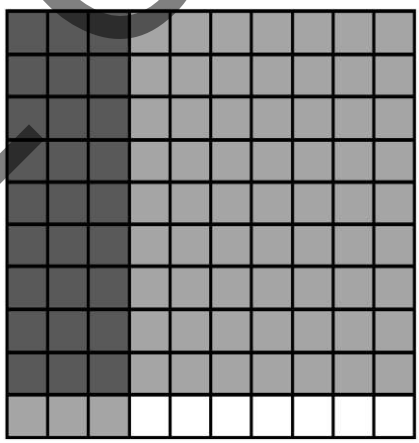
If the model above represents one whole, which model represents this equation?

$$0.2 \times 0.5 = 0.10$$

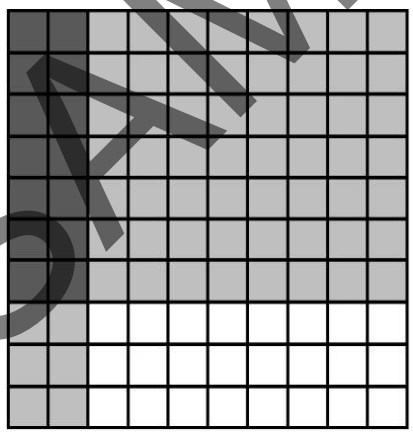
F



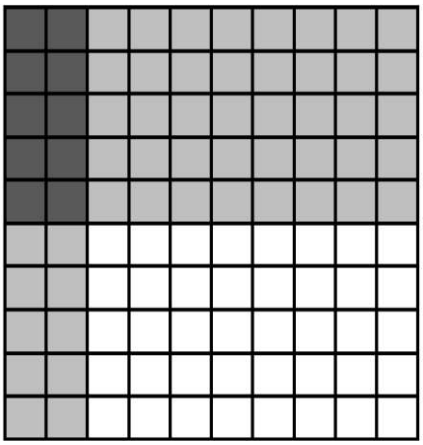
G



H



J



2 (5.4H)

A cube has edges measuring 5 centimeters.

What is the volume of the cube?

A 20 cubic centimeters

B 25 cubic centimeters

C 125 cubic centimeters

D 175 cubic centimeters

3 (5.2A)

In swimming, the record time for Men's 50-Meter Freestyle is 20.26 seconds. How is this time written in expanded notation?

F (2 x 10) + (2 x 0.1) + (6 x 0.01)

G (2 x 1) + (2 x 0.1) + (6 x 0.01)

H (2 x 10) + (2 x 0.01) + (6 x 0.001)

J (2 x 10) + (2 x 1) + (6 x 0.1)

Spiral 31

1 (5.3B)

Angela read 25 pages each day for a year (365 days). How many pages did she read in a year?

A 9,125

B 9,005

C 8,125

D 8,925

2 (5.4H)

A square play area has sides that are 7.8 meters long. Which information is correct about the area and perimeter of the square?

F perimeter = 60.84 meters; area = 31.2 square meters

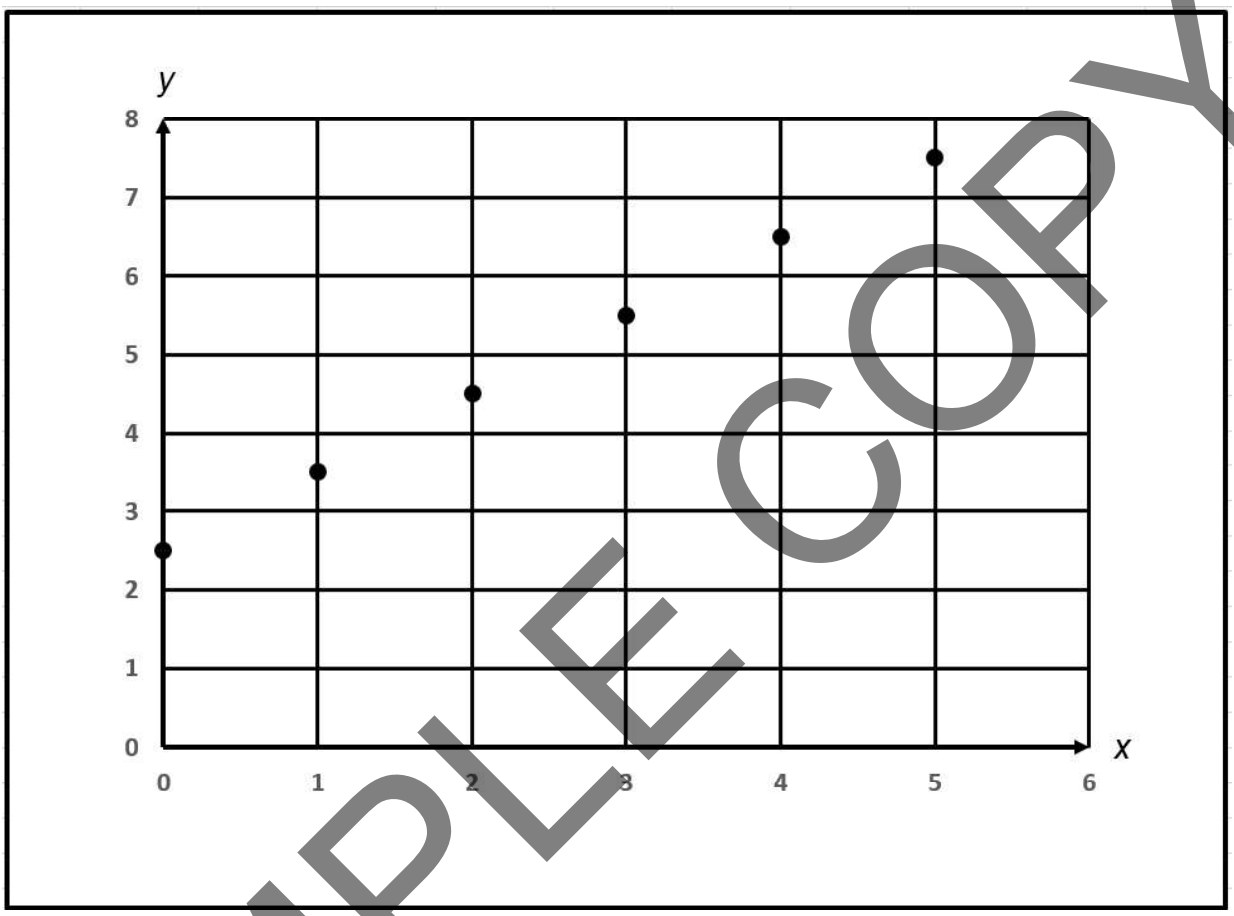
G perimeter = 15.6 meters; area = 60.84 square meters

H perimeter = 31.2 meters; area = 60.84 square meters

J perimeter = 15.6 meters; area = 31.2 square meters

3 (5.4D)

The graph represents a relationship between *x* and *y*.



The relationship between the *x*-values and the *y*-values creates a pattern that is —

A additive, because each *x*-value increases by 2.5.

B additive, because each *y*-value is determined by adding 2.5 to the corresponding x-value.

C multiplicative, because each *x*-value is a multiple of 2.5.

D multiplicative, because each *y*-value is determined by multiplying the corresponding x-value by 2.5.

Spiral 32

1 (5.3G)

A math problem is shown

$$32\overline{)51.52}$$

What is the quotient?

F 16.1 **G** 1.16 **H** 1.61 **J** 11.6

2 (5.3C)

A teacher divides small plastic chips into bags for family game night. The teacher starts with 865 chips. If each game requires 26 chips, how many bags can the teacher fill?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

3 (5.5A)

Juan created a chart showing the characteristics of different triangles.

Triangle Chart

Attributes → / Shape ↓	More Than One Right Angle	Two or More Congruent Sides	At Least One Acute Angle
equilateral triangle			
right triangle			
isosceles triangle			
scalene triangle			

Juan's teacher suggests he redo one of his categories. Which category needs to be redone, and why?

F *More Than One Right Angle*, because no triangle can have more than one right angle.

G *Two or More Congruent Sides*, because no triangle can have more than two congruent sides.

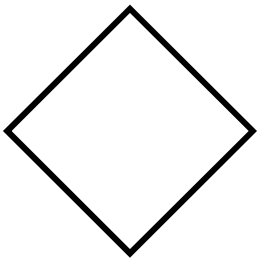
H *Two or More Congruent Sides*, because all triangles have at least two congruent sides.

J *At Least One Acute Angle*, because no triangle can have an acute angle.

Spiral 33

1 (5.5A)

Amos uses a graphic organizer to classify this quadrilateral based on three attribute groups.



Parallel Sides	No Sides Parallel	One Pair of Parallel Sides	Two Pair of Parallel Sides
Right Angles	No Right Angles	Only Two Right Angles	Four Right Angles
Congruent Sides	No Congruent Sides	Only One Pair of Congruent Sides	All Four Sides Congruent

Which list shows the correct attributes for each category for the shape above?

A Two Pair of Parallel Sides, No Right Angles, All Four Sides Congruent

B No Sides Parallel, No Right Angles, No Congruent Sides

C One Pair of Parallel Sides, No Right Angles, All Four Sides Congruent

D Two Pair of Parallel Sides, Four Right Angles, All Four Sides Congruent

2 (5.4E)

Elena's target number is 24. She drew the following digits and created the following expression.

$$6 + 2 \times 7 - 4$$

What part(s) of her expression need to be placed in parentheses to reach her target number?

F six plus two and seven minus four

G six plus two only

H seven minus four only

J two times seven only

3 (5.3B)

Each team jacket costs $68. How much will 216 team jackets cost?

A $12,628

B $14,688

C $13,548

D $14,868

Spiral 34

1 (5.2C)

Which number would NOT be 60.3 when rounded to the nearest tenth?

F 60.25

G 60.208

H 60.281

J 60.271

2 (5.5A)

Josh created a chart showing the characteristics of several shapes.

Shape Chart

Groups → / Shape ↓	Polygon	Quadrilateral	All Sides Congruent
equilateral triangle	✔		
square	✔	✔	✔
rhombus	✔	✔	✔
right triangle			

Which boxes should Josh check for the right triangle?

A all three

B only Polygon

C only Polygon and Quadrilateral

D none

3 (5.5A)

In which table are the check marks placed in the correct boxes?

F

	Polygon	Quadrilateral	Right Angle(s)
	✔	✔	✔
			✔
	✔	✔	

G

	Polygon	Quadrilateral	Right Angle(s)
	✔	✔	✔
	✔		✔
	✔		✔

H

	Polygon	Quadrilateral	Right Angle(s)
	✔	✔	✔
	✔		✔
	✔	✔	

J

	Polygon	Quadrilateral	Right Angle(s)
	✔	✔	
	✔		✔
	✔	✔	

Spiral 35

1 (5.4C)

Which table represents the equation $y = x + 2.5$.

A

x	*y*
0	2.5
3	5.5
5	7.5
6	8.5
9	11.5

B

x	*y*
0	0
2	5
5	12.5
6	15
10	25

C

x	*y*
0	0
1	2.5
2	3.5
3	4.5
6	7.5

D

x	*y*
0	0
1	1.5
2	3
3	4.5
6	6

2 (5.3E)

Peaches cost $1.29 per pound. How much will 5 pounds of peaches cost?

F $6.55

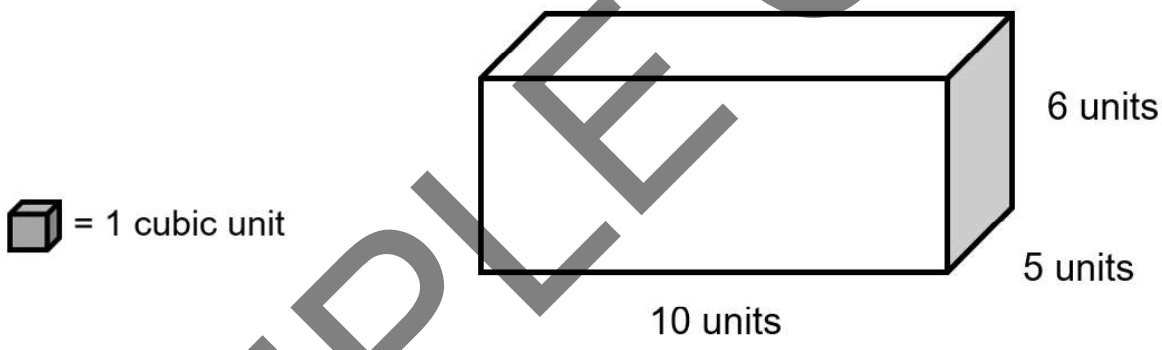
G $6.45

H $6.35

J $5.55

3 (5.6A)

The shaded cube has a volume of 1 cubic unit. Cubes like this one will be used to completely fill a rectangular prism that has the dimensions shown.



How many of these shaded cubes will be needed to completely fill the rectangular prism?

A 300

B 500

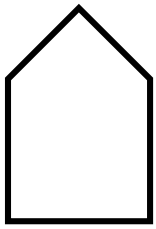
C 350

D 110

Spiral 36

1 (5.5A)

Thomas uses a graphic organizer to classify this shape based on four attribute groups.



Which table shows the correct attributes for each category for the shape above?

F

Parallel Sides	One Pair of Parallel Sides
Right Angles	More Than One Right Angle
Obtuse Angles	More Than One Obtuse Angles
Acute Angles	No Acute Angles

G

Parallel Sides	More Than One Pair of Parallel Sides
Right Angles	More Than One Right Angle
Obtuse Angles	More Than One Obtuse Angles
Acute Angles	No Acute Angles

H

Parallel Sides	One Pair of Parallel Sides
Right Angles	Only One Right Angle
Obtuse Angles	More Than One Obtuse Angles
Acute Angles	Only One Acute Angle

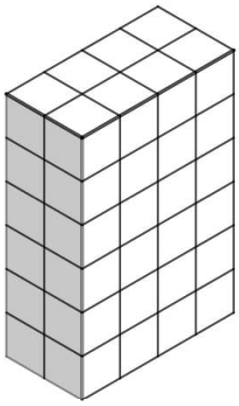
J

Parallel Sides	One Pair of Parallel Sides
Right Angles	More Than One Right Angle
Obtuse Angles	Only One Obtuse Angle
Acute Angles	No Acute Angles

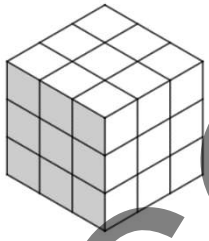
2 (5.6A)

A student builds some rectangular prisms using cubes that each have a volume of 1 cubic centimeter. Which rectangular prism has a volume of 28 cubic centimeters?

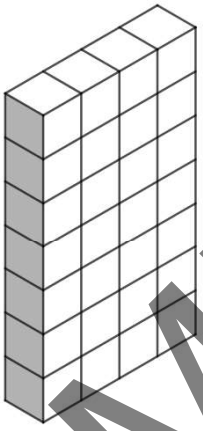
A



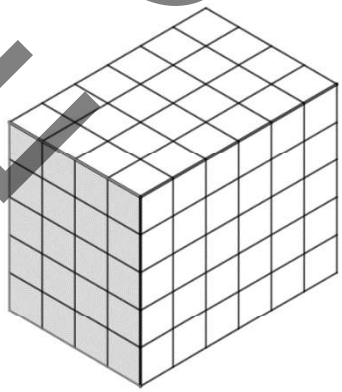
B



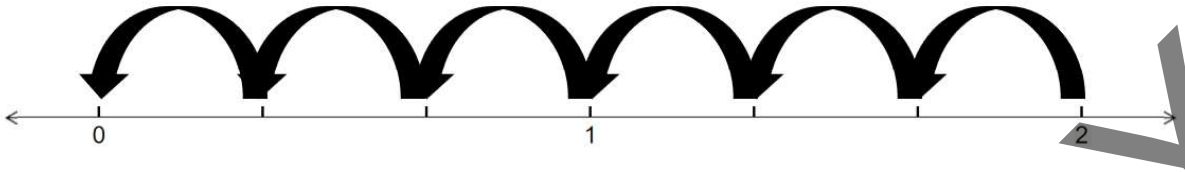
C



D



3 (5.3J)



Which expression is represented by the number line?

F $6 \div \frac{1}{3}$

G $2 \div \frac{1}{6}$

H $2 \div \frac{1}{3}$

J $3 \div \frac{1}{2}$

Spiral 37

1 (5.4A)

The chart shows the snowfall in inches for Amarillo, Texas by month.

Month	Snowfall (in.)
November	1 inch
December	2 inches
January	4 inches
February	3 inches

Which month(s) had a snowfall that was a prime number?

A all four months

B November, December, and February

C only February

D December and February

2 (5.2B)

The world record time for the women's 100-meter dash is 10.49 seconds.

Which of the following times would NOT be good enough to break the world record?

F 10.48 seconds

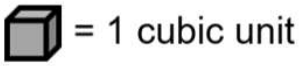
G 10.489 seconds

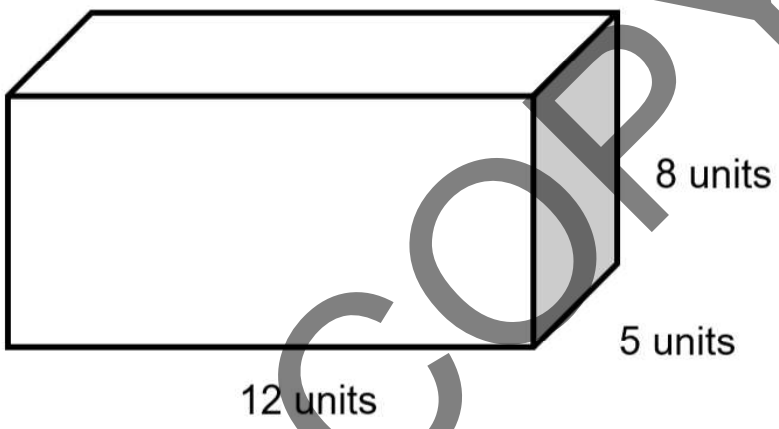
H 10.479 seconds

J 10.492 seconds

3 (5.6A)

The shaded cube has a volume of 1 cubic unit. Cubes like this one will be used to completely fill a rectangular prism that has the dimensions shown.





How many of these shaded cubes will be needed to completely fill the rectangular prism?

A 360

B 480

C 500

D 720

Spiral 38

1 (5.5A)

In which table are the check marks place in all the correct boxes?

F

	Polygon	Quadrilateral	Parallelogram
	✔	✔	✔
	✔	✔	
	✔		

G

	Polygon	Quadrilateral	Parallelogram
	✔	✔	✔
	✔		
	✔		

H

	Polygon	Quadrilateral	Parallelogram
	✔	✔	✔
	✔	✔	
			✔

J

	Polygon	Quadrilateral	Parallelogram
	✔	✔	✔
	✔		
	✔		✔

2 (5.6B)

Amanda used 56 cubes to create the base for a rectangular prism. The edge length of each cube was 1 inch. The finished prism had a total of 6 layers. What is the volume of Amanda's prism in cubic inches?

A 336 cubic inches

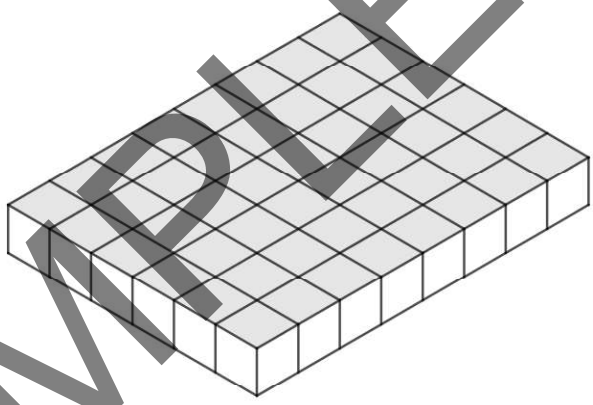
B 244 cubic inches

C 364 cubic inches

D 286 cubic inches

3 (5.6B)

The base of a rectangular prism is shown. Each small cube has an edge length of 1 centimeter. The finished prism has a total of 7 layers.



What is the volume of the prism in cubic centimeters?

F 244 cubic centimeters

G 336 cubic centimeters

H 296 cubic centimeters

J 366 cubic centimeters

SpiralEd Solutions

Spiral 39

1 (5.4C)

Which table represents the equation $y = 0.2x$.

A

x	0	20	50	90
y	0.2	0.4	0.65	1.8

B

x	0	2	5	9
y	0	0.4	0.1	2.7

C

x	10	20	25	40
y	2	4	5	8

D

x	0	2	5	9
y	0	4	10	18

(5.7A)

Jacob is 4 feet tall. His friend Caleb is 42 inches tall. What is the difference between their heights in inches?

F 6 inches

G 38 inches

H 2 inches

J 4 inches

3 (5.7A)

Brandy purchased 41 feet of fabric. How many yard-long pieces of fabric can Brandy cut from 41 feet?

A 14 pieces

B 12 pieces

C 123 pieces

D 13 pieces

Spiral 40

1 (5.6B)

Robin used 49 cubes to create the base for a rectangular prism. The edge length of each cube was 1 inch. The finished prism had a total of 6 layers. What is the volume of Robin's prism in cubic inches?

F 344 cubic inches

G 294 cubic inches

H 184 cubic inches

J 244 cubic inches

2 (5.6B)

Kyle used 132 cubes to create the base for a rectangular prism. The edge length of each cube was 1 centimeter. The finished prism had a total of 6 layers. What is the volume of Kyle's prism in cubic centimeters?

A 844 cubic centimeters

B 906 cubic centimeters

C 564 cubic centimeters

D 792 cubic centimeters

3 (5.4C)

A math teacher offered a 15-point bonus on test grades for students that attended a review class. The relationship between a student's original test grade and his final grade, is represented by the equation $y = x + 15$. Which table could represent this relationship?

F

Original Grade, *x*	New Grade, *y*
60	75
65	80
70	85
80	95
90	105

G

Original Grade, *x*	New Grade, *y*
60	70
65	80
70	90
80	100
90	110

H

Original Grade, *x*	New Grade, *y*
60	70
70	80
80	90
90	100
100	110

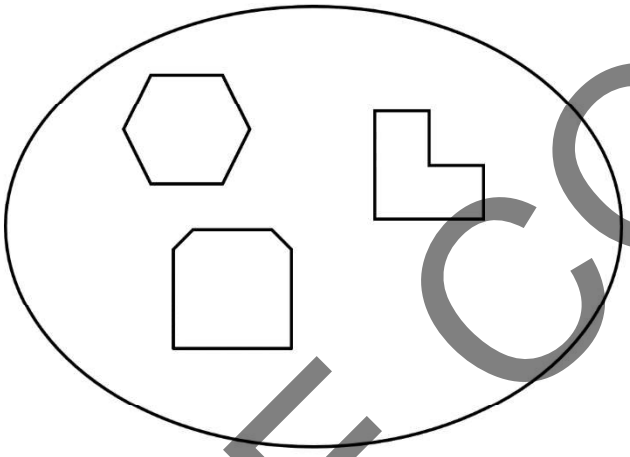
J

Original Grade, *x*	New Grade, *y*
55	75
65	85
75	95
85	105
95	115

Spiral 41

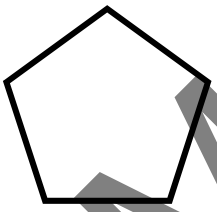
1 (5.5A)

Hayley and Beth sorted shapes based on their characteristics. They put these shapes inside a graphic organizer to indicate that all of the shapes share the same characteristic.

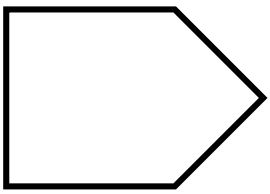


Which additional shape could the girls include in their set?

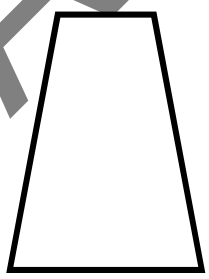
A



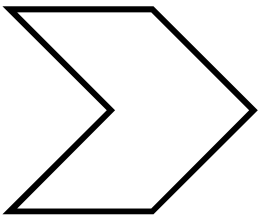
B



C



D



2 (5.7A)

Bailee's new sailboat is 15 feet long. How long is Bailee's sailboat in yards?

F 45 yards

G 5 yards

H 18 yards

J 4 yards

3 (5.3E)

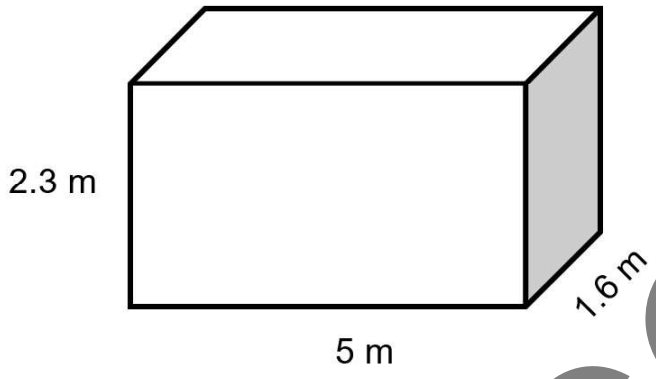
A science experiment requires 4.25 grams of salt. How much salt is needed to perform the experiment 18 times?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 42

1 (5.4H)



What is the perimeter of the shaded face of the figure?

F 7.8 m

G 13.2 m

H 14.6 m

J 8 m

2 (5.3B)

What is seven more than the product of 300 and 75?

A 22,507

B 379

C 22,500

D 21,507

3 (5.4C)

Which table represents the equation $y = x + 3.4$.

F

x	0	2.2	5.5	9.9
y	3.4	5.6	8.9	13.3

G

x	0	3.1	5.6	8.5
y	3.4	9.9	12.4	15.3

H

x	10	20	25	40
y	34	68	85	136

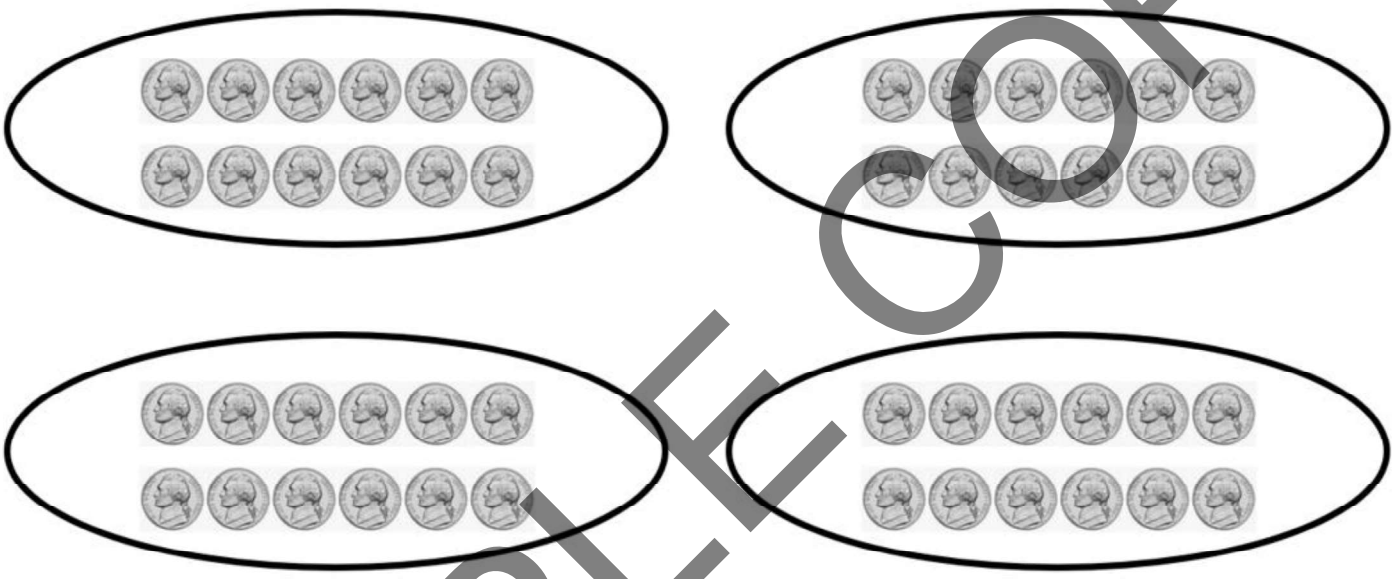
J

x	0	0.2	0.5	0.9
y	0	6.4	1.7	3.06

Spiral 43

1 (5.3F)

Cassidy has $2.40 in nickels. She spent all of this money on a pencil for herself and for each of three friends. She spent the same amount on each pencil. The amount she spent is represented by the diagram below.



How much did Cassidy spend for each pencil?

A $0.40

B $1.20

C $0.60

D $0.80

2 (5.7A)

Robert is 4 feet 5 inches tall. How tall is Robert in inches?

F 48.5 inches

G 51 inches

H 53 inches

J 36.5 inches

3 (5.4D)

The table represents a relationship between *x* and *y*.

x	*y*
0	0
5	7.5
10	15
15	22.5
20	30

The relationship between the *x*-values and the *y*-values creates a pattern that is —

A additive, because each *x*-value increases by 5.

B additive, because each *y*-value is determined by adding 2.5 to the corresponding x-value.

C multiplicative, because each *x*-value is a multiple of 5.

D multiplicative, because each *y*-value is determined by multiplying the corresponding x-value by 1.5.

Spiral 44

1 (5.2B)

Which list shows the numbers in order from least to greatest?

F 3.02 < 3.020 < 32.0 < 3.20

G 4.105 < 4.15 < 4.51 < 5.41

H 2.16 < 2.106 < 2.61 < 2.061

J 0.302 < 0.32 < 0.203 < 0.23

2 (5.4F)

What is the value of the expression shown?

$$[3 \times (3.2 + 1.8)] - (1.6 + 2)$$

A 10.8

B 9.6

C 11.4

D 15

3 (5.6B)

Katy used 64 cubes to create the base for a rectangular prism. The edge length of each cube was 1 inch. The finished prism had a total of 9 layers. What is the volume of Katy's prism in cubic inches?

F 600 cubic inches

G 546 cubic inches

H 576 cubic inches

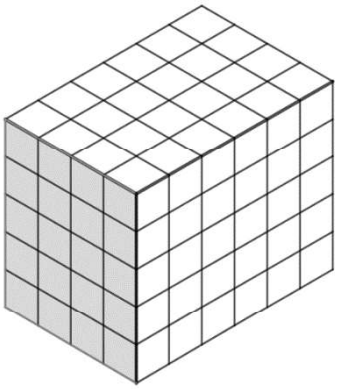
J 554 cubic inches

Spiral 45

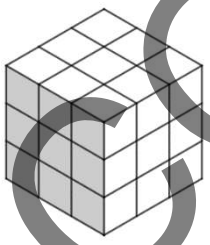
1 (5.6A)

A student builds some rectangular prisms using cubes that each have a volume of 1 cubic inch. Which rectangular prism has a volume of 27cubic inches?

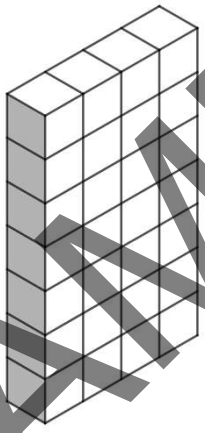
A



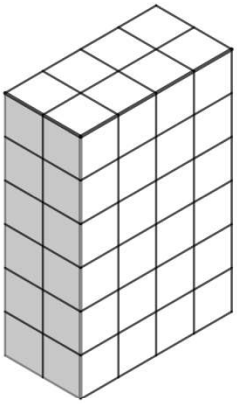
B



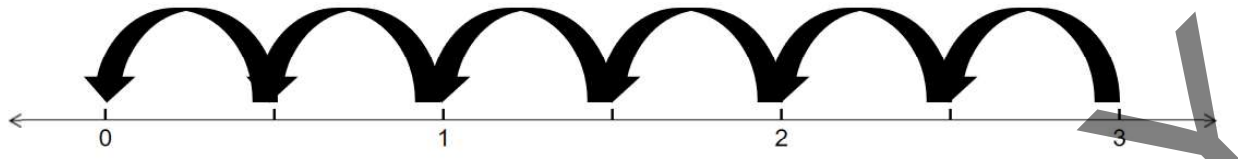
C



D



2 (5.3J)



Which equation is represented by the number line?

F $6 \div \frac{1}{3} = 2$

G $2 \div \frac{1}{6} = 12$

H $2 \div \frac{1}{3} = 6$

J $3 \div \frac{1}{2} = 6$

3 (5.3C)

The new basketball arena must have parking for at least 856 cars. How many rows of 54 cars each must be created to provide enough parking?

A 15

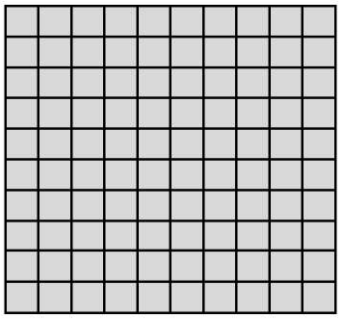
B 21

C 19

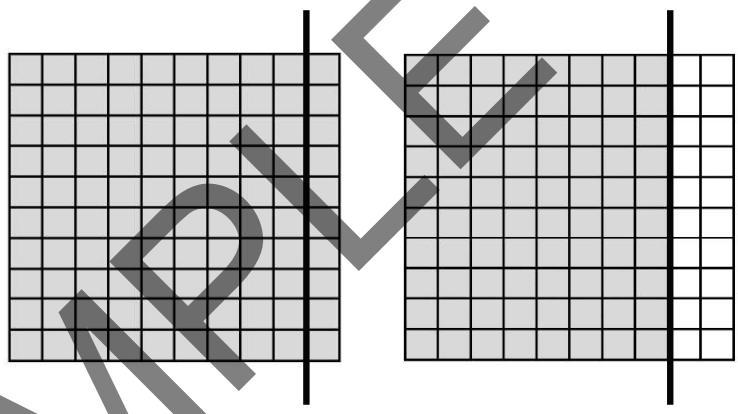
D 16

Spiral 46

1 (5.3D)



If the model above represents one whole, which equation is represented by the model below?



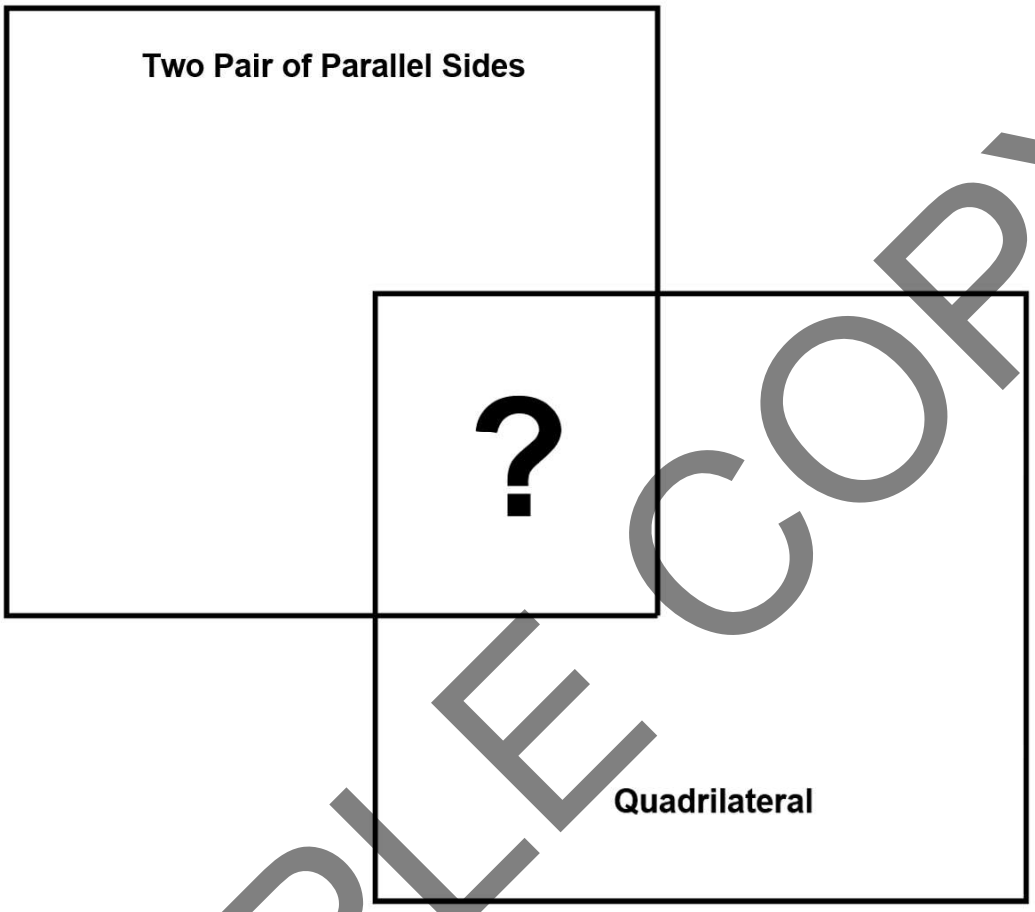
F 2 x 9 = 18

G 2 x 0.09 = 0.18

H 3 x 0.6 = 1.8

J 2 x 0.9 = 1.8

2 (5.5A)



Which of these shapes does NOT belong in the overlapping space?

A rectangle

B trapezoid

C parallelogram

D square

3 (5.3K)

The table shows the annual water flow for six Texas rivers.

River	Annual Flow
Brazos	6,074,000
Sabine	5,864,000
Trinity	5,727,000
Neches	4,323,000
Red	3,484,000
Colorado	1,904,000

What is the difference in flow between the Brazos and the Colorado Rivers?

F 210,000

G 5,170,000

H 5,970,000

J 4,170,000

Spiral 47

1 (5.4B)

Trinity started her first semester of college with $6,299 in her personal account. She has the following monthly expenses:

- rent $987
- phone $83
- insurance $128

She can use the equation

$$6299 - 5(987 + 83 + 128) = m$$

to determine the amount of money (m) she will have at the end of her first five-month semester.

How much money will Trinity have at the end of her first semester?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.3A)

Maria estimated the solution to the problem shown.

$$31{,}488 \div (196 + 220)$$

What is the best estimate for the solution to the problem?

F 60

G 70

H 90

J 80

3 (5.4E)

What is the first step in solving this problem?

$$[(8 + 3) \times 4] + 7 = \_\_\_$$

A multiply 3 and 4

B add 4 and 7

C add 8 and 3

D multiply 8 and 4

Spiral 48

1 (5.3G)

The weight of wheat flour in a large bag is 13.2 kilograms. The flour in the bag is divided equally into 5 smaller bags. What is the weight in kilograms of the wheat flour in each small bag?

F 66 kg

G 26.4 kg

H 2.46 kg

J 2.64 kg

2 (5.8A)

On a coordinated plane the intersection of the *x*-axis and the *y*-axis occurs at the point with the coordinates (0, 0). What is the name for this point?

A origin

B starting point

C input

D *y*-coordinate

3 (5.7A)

The Chandler family drinks 3 gallons of milk each week. A serving of milk is one cup. How many servings of milk does the Chandler family consume each week?

F 36 servings

G 24 servings

H 48 servings

J 64 servings

Spiral 49

1 (5.4C)

Which table represents the equation $y = 25x$.

A

x	0	21	45	60
y	25	46	70	85

B

x	0	6	8	10
y	0	150	200	250

C

x	10	20	25	40
y	2.5	5	6.25	8

D

x	0	0.2	0.5	0.9
y	0	0.5	1.25	2.25

2 (5.8A)

Meredith graphs a point that is represented by the ordered pair (0, 4). In this ordered pair, what does the number 4 indicate?

F The point is four units to the right of 0 on the *y*-axis.

G The point is four units above 0 on the *y*-axis.

H The point is four units to the right of 0 on the *x*-axis.

J The point is four units above 0 on the *x*-axis.

3 (5.2A)

The atomic mass of the element Boron is shown in expanded notation.

$$(1 \times 10) + (8 \times 0.1) + (1 \times 0.01) + (1 \times 0.001)$$

What is the atomic mass of Boron?

A 1.811

B 10.811

C 18.11

D 108.11

Spiral 50

1 (5.3E)

The area of a rectangle equals the length times the width. What is the area of a rectangle with a length of 5.5 inches and a width of 6.2 inches?

F 24.1 square inches

G 34.01 square inches

H 24.01 square inches

J 34.1 square inches

2(5.4F)

What is the value of the expression shown?

$$[5 \times (2.6 + 1.2)] - (5 - 1.8)$$

A 12.2

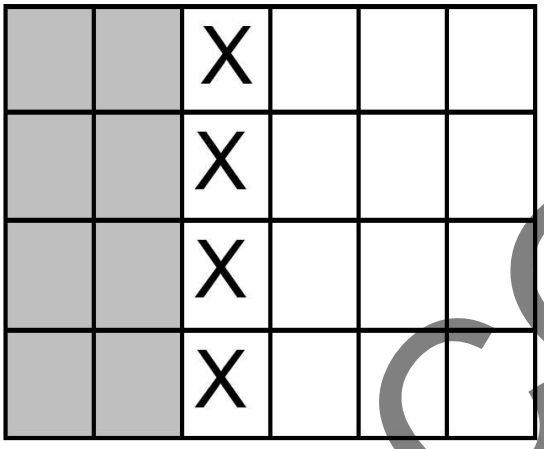
B 15.8

C 14.4

D 16.1

3 (5.3H)

The shaded part of the model represents a fraction. Another fraction, represented by the area marked with “x”, is added to the first fraction.



Which equation does the model represent?

A $\frac{1}{3} + \frac{1}{12} = \frac{1}{2}$

B $\frac{1}{3} + \frac{1}{6} = \frac{1}{2}$

C $\frac{1}{4} + \frac{1}{6} = \frac{1}{2}$.

D $\frac{1}{3} - \frac{1}{6} = \frac{1}{2}$

Spiral 51

1 (5.8A)

Jason graphs a point that is represented by the ordered pair (4,0). In this ordered pair, what does the number 4 indicate?

A The point is four units to the right of 0 on the *y*-axis.

B The point is four units above 0 on the *y*-axis.

C The point is four units to the right of 0 on the *x*-axis.

D The point is four units above 0 on the *x*-axis.

2 (5.8B)

To graph a point on the coordinate plane, a student starts at the origin, moves three units to the right and two units up.

What are the coordinates of the new point?

F (3, 2)

G (2, 3)

H (0, 0)

J (0, 3)

3 (5.4D)

The table represents a relationship between *x* and *y*.

x	*y*
0	10
10	20
20	30
30	40
40	50

The relationship between the *x*-values and the *y*-values creates a pattern that is —

A additive, because each *x*-value increases by 10.

B additive, because each *y*-value is determined by adding 10 to the corresponding x-value.

C multiplicative, because each *x*-value is a multiple of 10.

D multiplicative, because each *y*-value is determined by multiplying the corresponding x-value by 2.

Spiral 52

1 (5.2C)

A scientist added 1.505 liters of water to 1 kilogram of salt. What is 1.505 rounded to the nearest hundredth?

F 1.5 liters

G 1.52 liters

H 1.51 liters

J 1.55 liters

2 (5.4B)

Boats transport visitors to and from the Arizona Memorial. Each boat carries 88 visitors and makes 6 trips a day. If there are 12 boats, the equation

$$88 \times 6 \times 12 = v$$

can be used to determine the total number of visitors (v) transported by bus each day.

How many visitors are transported by boat each day?

A 7,456

B 6,206

C 5,346

D 6,336

3 (5.3I)

Which expression is represented by the model?

F $3+\frac{1}{3}$

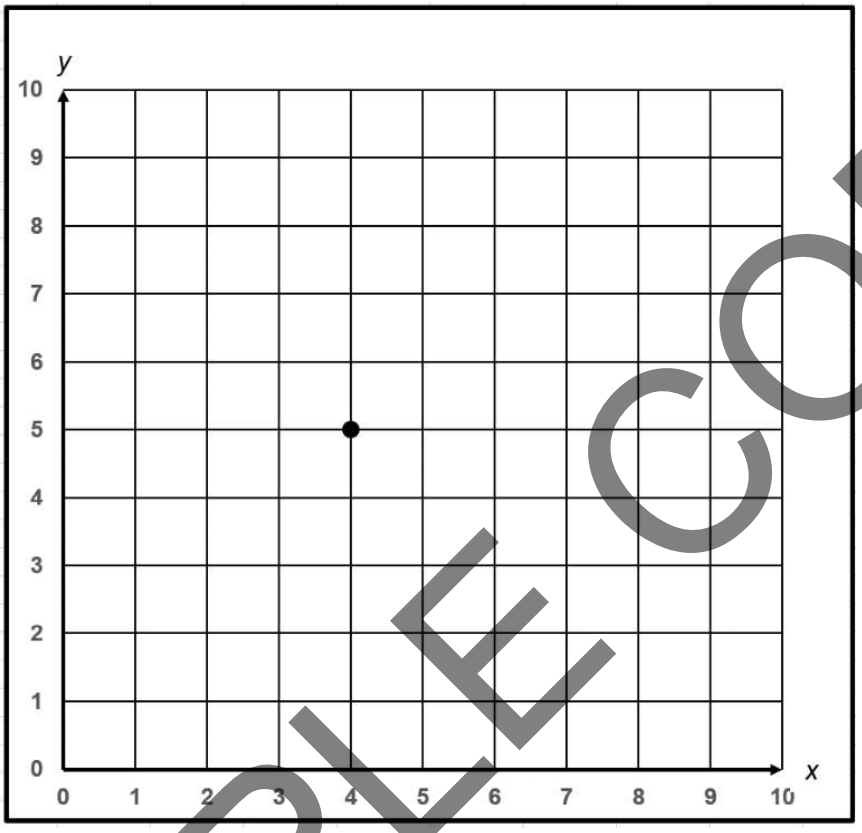
G $\frac{1}{3}\times\frac{1}{3}$

H $\frac{1}{3}\div 3$

J $3\times\frac{1}{3}$

Spiral 53

1 (5.8B)



A student graphed the point shown by starting at (0, 0) and moving four units right on the *x*-axis. She then moved five units above the *x*-axis.

What are the coordinates for the point?

A (0, 4)

B (4, 0)

C (5, 4)

D (4, 5)

2 (5.3L)

A 5-pound bag of flour contains 11 cups of flour. How many $\frac{1}{3}$-cup servings of flour can be taken from the bag?

F 33

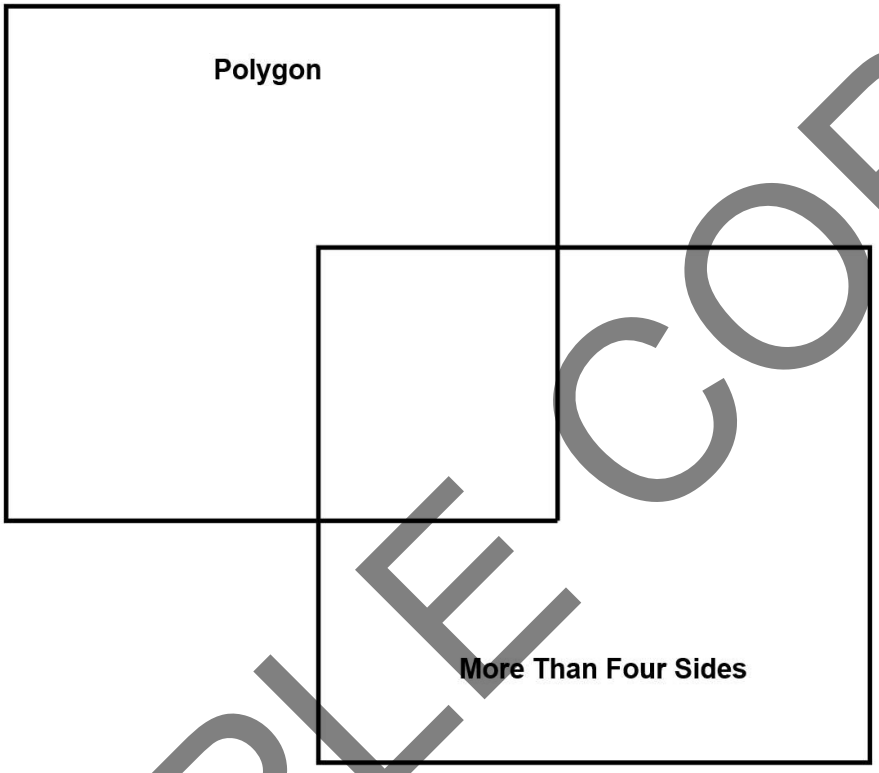
G $3\frac{2}{3}$

H $11\frac{1}{3}$

J $10\frac{2}{3}$

3 (5.5A)

The diagram represents attributes of geometric figures. Monica sorts shapes onto into their appropriate areas.



Where should she place a rhombus?

A in the space marked *Polygon*, but not in the overlapping area

B in the space marked *More Than Four Sides*, but not in the overlapping area

C in the overlapping area between the two boxes

D outside the two boxes

Spiral 54

1 (5.3G)

Barry earned $88.20 in 12 days. He earned the same amount each day. How much did Barry earn each day?

F $6.35

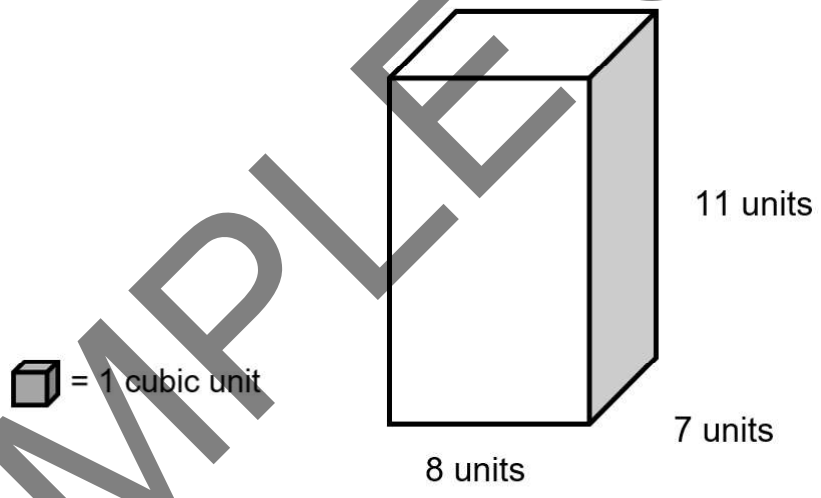
G $7.35

H $8.15

J $7.25

2 (5.6A)

The shaded cube has a volume of 1 cubic unit. Cubes like this one will be used to completely fill a rectangular prism that has the dimensions shown.



How many of these shaded cubes will be needed to completely fill the rectangular prism?

A 556

B 742

C 616

D 770

3 (5.4C)

Which table represents the equation $y = x + 25$.

F

x	0	21	45	60
y	25	46	70	85

G

x	0	6	8	10
y	0	150	200	250

H

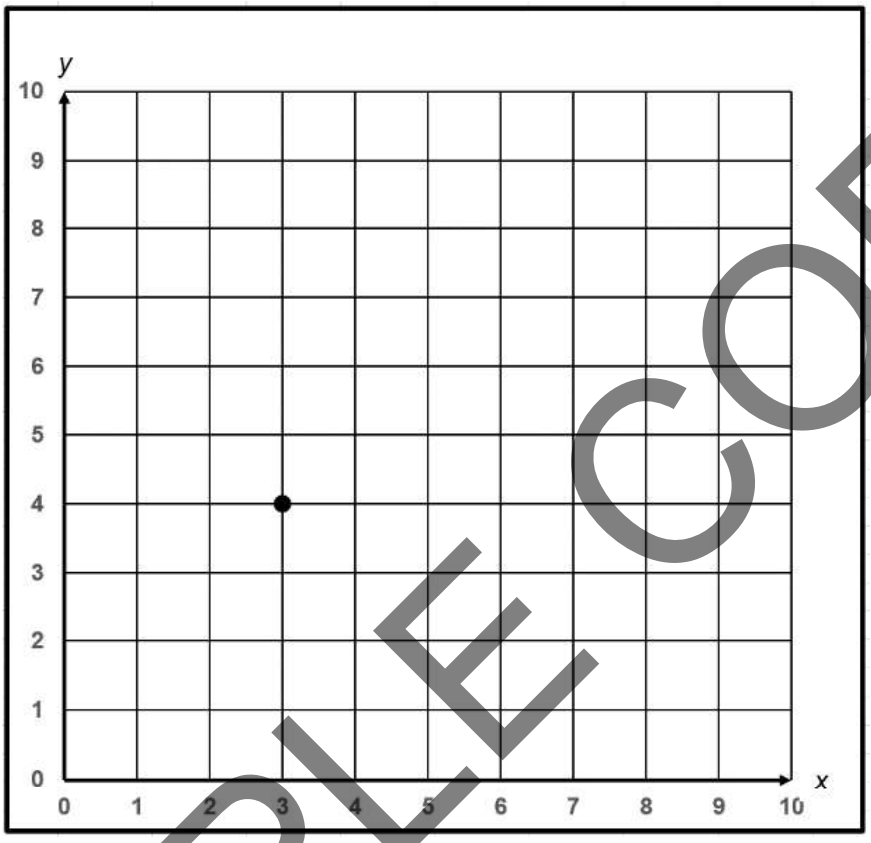
x	10	20	25	40
y	2.5	5	6.25	8

J

x	0	0.2	0.5	0.9
y	0	0.5	1.25	2.25

Spiral 55

1 (5.8B)



Which statement is correct for the point shown?

A To graph the point (3, 4) start at the origin. Move three units to the right on the *x*-axis and move four units above the *x*-axis.

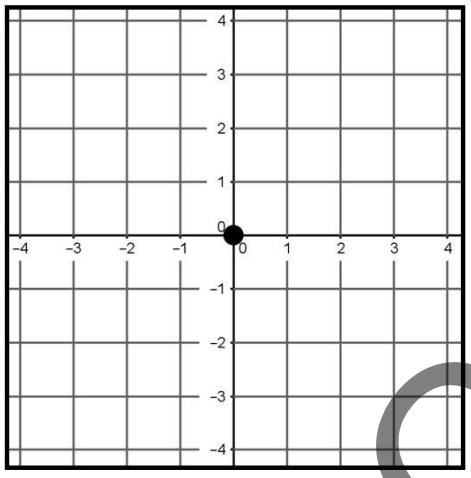
B To graph the point (3, 4) start at the origin. Move four units to the right on the *x*-axis and move three units above the *x*-axis.

C To graph the point (4, 3) start at the origin. Move three units to the right on the *x*-axis and move four units above the *x*-axis.

D To graph the point (4, 3) start at the origin. Move four units to the right on the *x*-axis and move three units above the *x*-axis.

2 (5.8A)

The point shown on the coordinate graph is called the origin.



What are the coordinates for the point?

F (0,1)

G (1,0)

H (0)

J (0,0)

3 (5.2B)

Which symbol correctly completes the comparison?

0.020 ☐ 0.002

A =

B >

C <

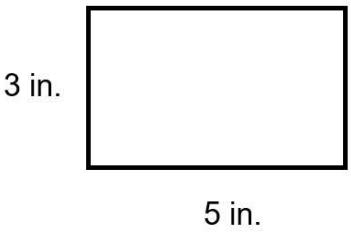
D ÷

Spiral 56

1 (5.4H)

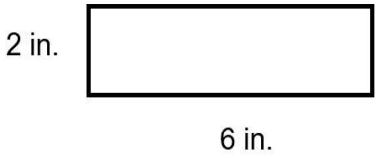
Which figure has a perimeter of 16 inches **and** an area of 16 square inches?

F

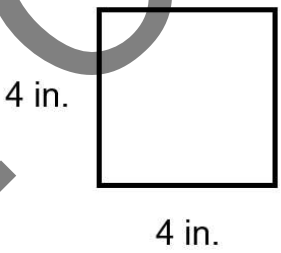


G

H



J



2 (5.7A)

Mrs. Cox put 3 liters of lemonade into the punch bowl. How many milliliters of lemonade did she use?'

A 3,000 milliliters

B 300 milliliters

C 30 milliliters

D 0.03 milliliters

3 (5.4C)

The equation $y = 3.5x$ can be used to determine y, the amount of fabric in yards needed to make x number of jackets. Which table shows the relationship between x and y?

F

Number of Jackets, *x*	5	20	55	100
Yards of Fabric, *y*	8.5	23.5	58.5	103.5

G

Number of Jackets, *x*	10	20	70	100
Yards of Fabric, *y*	35	70	245	350

H

Number of Jackets, *x*	5	25	60	120
Yards of Fabric, *y*	12.5	62.5	150	300

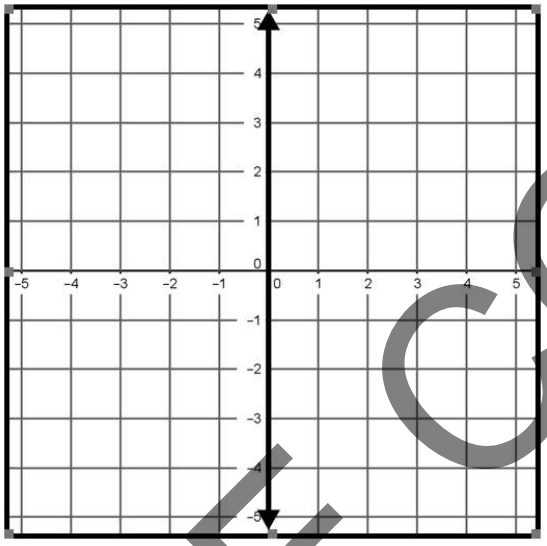
J

Number of Jackets, *x*	9	20	55	100
Yards of Fabric, *y*	44	55	90	135

Spiral 57

1 (5.8A)

The line shown is called the *y*-axis.



Which of the following statements about the *y*-axis is true?

A Every point on the *y*-axis has an *x*-coordinate of 0.

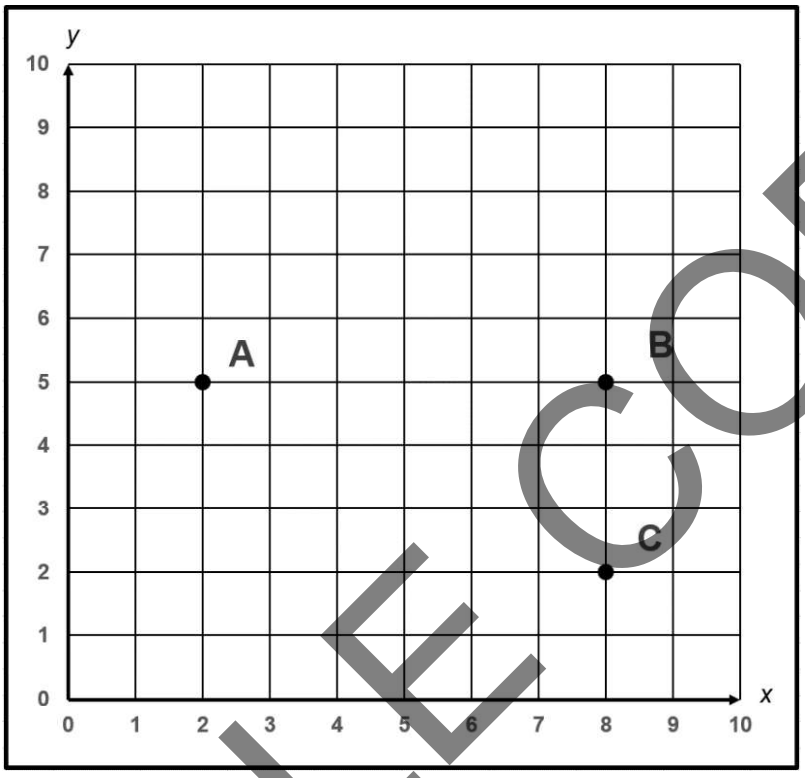
B Every point on the *y*-axis has an *y*-coordinate of 0.

C The *y*-axis crosses the *x*-axis at (0,1).

D The *y*-axis is parallel to the *x*-axis.

2 (5.8C)

The graph shows three of the four vertices of rectangle *ABCD*.



At which point on the coordinate grid could point *D* be located?

F (2, 2)

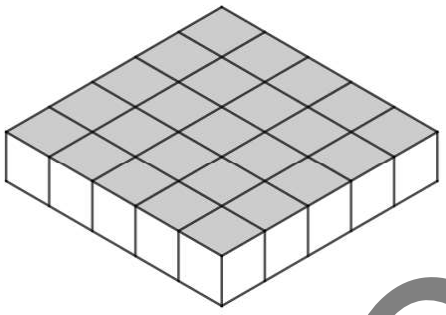
G (2, 1)

H (1, 2)

J (2, 3)

3 (5.6B)

The base of a rectangular prism is shown. Each small cube has an edge length of 1 inch. The finished prism has a total of 11 layers.



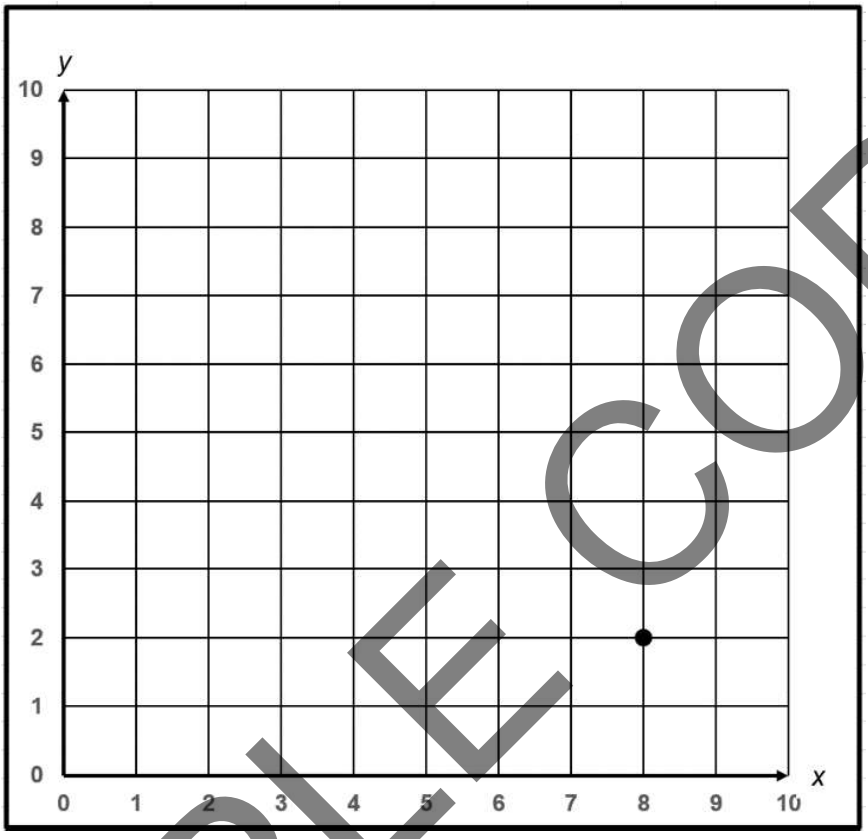
What is the volume of the prism in cubic inches?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 58

1 (5.8B)



Which statement is correct for the point shown?

F To graph the point (8, 2) start at the origin. Move two units to the right on the *x*-axis and move eight three units above the *x*-axis.

G To graph the point (8, 2) start at the origin. Move eight units to the right on the *x*-axis and move two units above the *x*-axis.

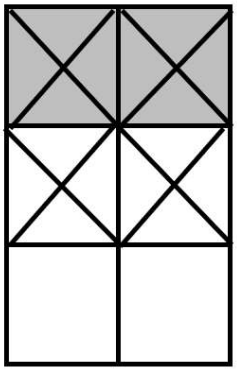
H To graph the point (2, 8) start at the origin. Move two units to the right on the *x*-axis and move eight units above the *x*-axis.

J To graph the point (2, 8) start at the origin. Move eight units to the right on the *x*-axis and move two units above the *x*-axis.

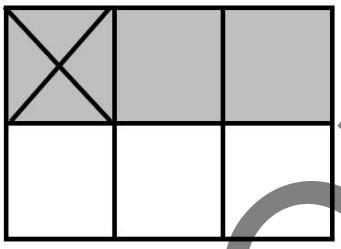
2 (5.3J)

Which model best represents $\frac{1}{2} \div 3 = \frac{1}{6}$?

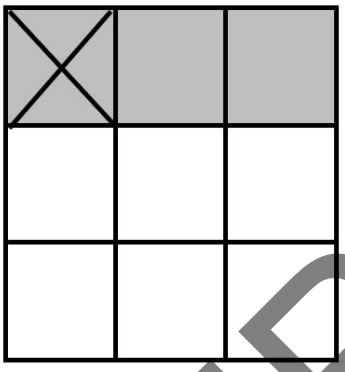
A



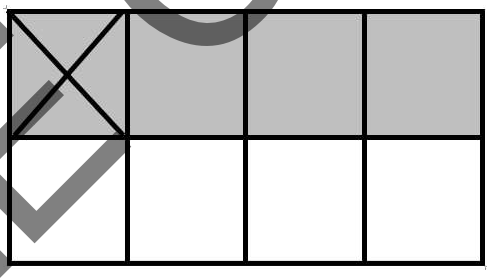
B



C



D



3 (5.8B)

To graph a point on the coordinate plane, a student starts at the origin, moves five units to the right and three units up.

What are the coordinates of the new point?

F (0, 0)

G (3, 5)

H (0, 3)

J (5, 3)

Spiral 59

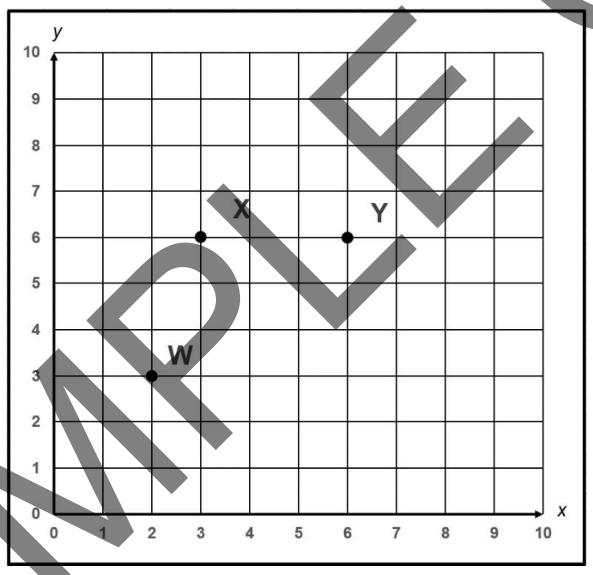
1 (5.3L)

Amberly cuts half of a chocolate pie into four equal pieces. What fraction of the whole pie is each piece?

A $\frac{1}{8}$ **B** $\frac{1}{4}$ **C** $\frac{3}{8}$ **D** $\frac{1}{10}$

2 (5.8C)

The graph shows three of the four vertices of isosceles trapezoid *WXYZ*.



At which point on the coordinate grid could point *Z* be located?

F (3, 7) **G** (6, 3)

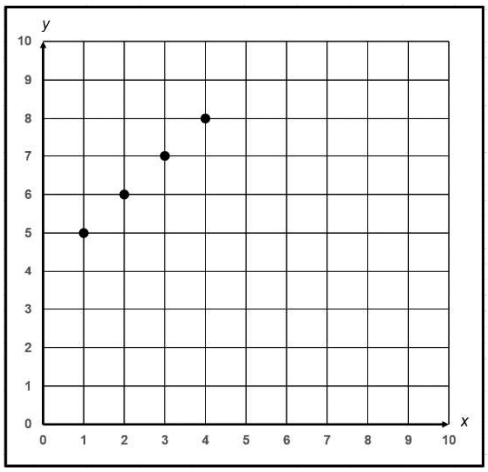
H (7, 3) **J** (8, 3)

3 (5.8C)

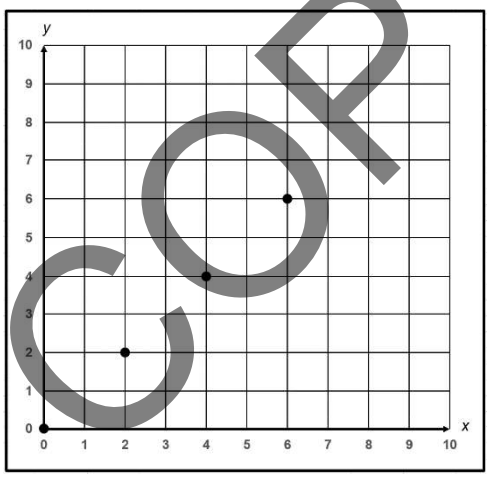
Megan measures the growth of a corn plant each week for a science observation. She notes that the plant grows 2 inches each week.

Which graph represents the growth of the plant?

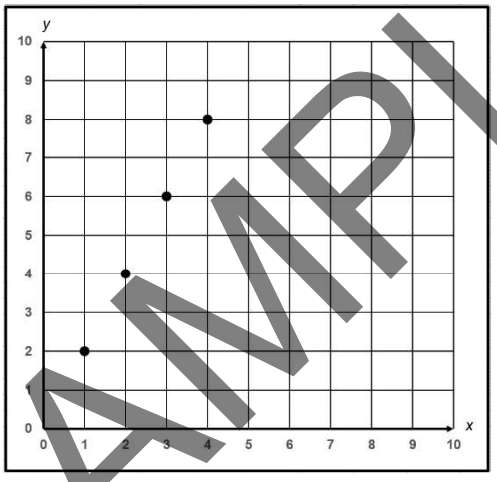
A



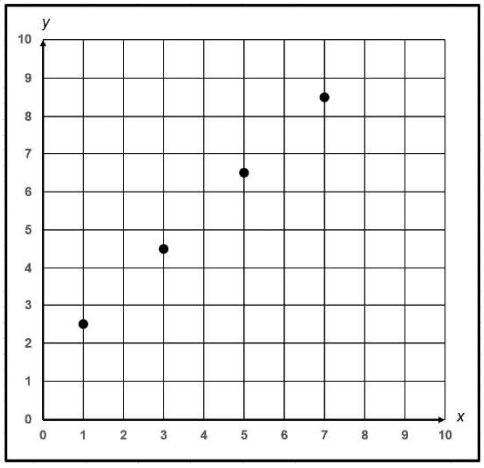
B



C



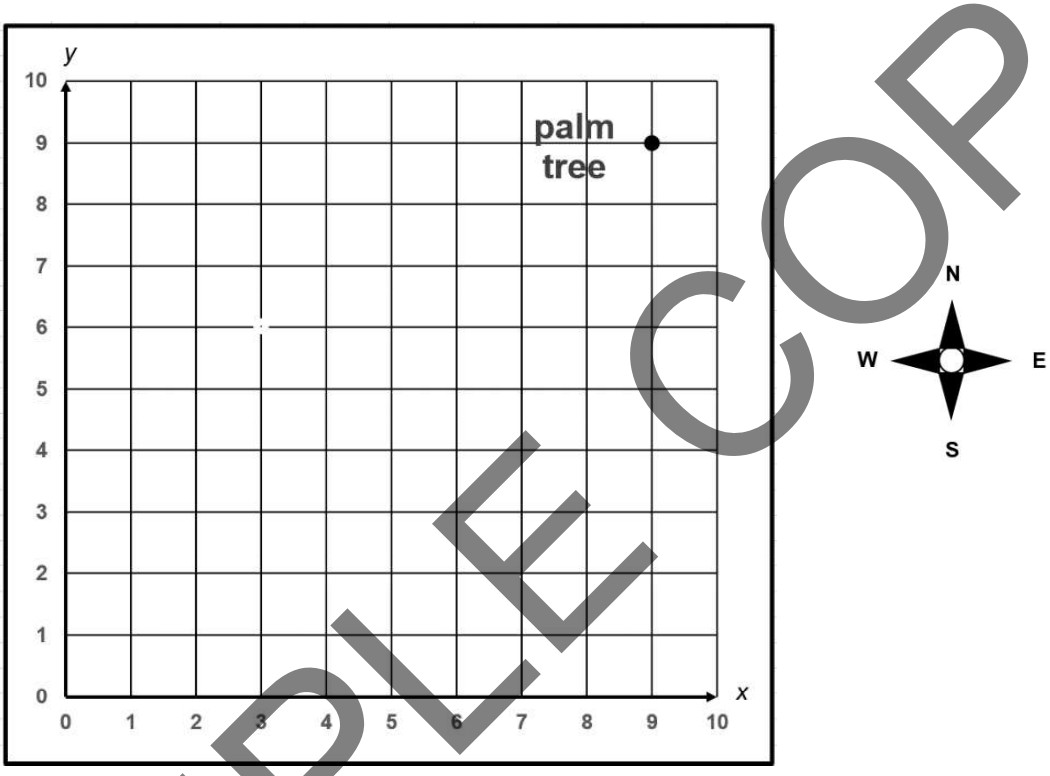
D



Spiral 60

1 (5.8C)

Treasure hunters use a coordinate grid to help them follow the directions on an old map. Each block on the grid represents one pace on the map.



- Start at the palm tree.
- Walk 8 paces west to the large rock.
- From the rock, walk 7 paces south and 2 paces east to the waterfall.
- From the waterfall, walk 6 paces east and 1 pace north to the cave.
- From the mouth of the cave, walk 3 paces west and 2 north to the treasure.

What are the coordinates for the treasure?

F (2, 6)

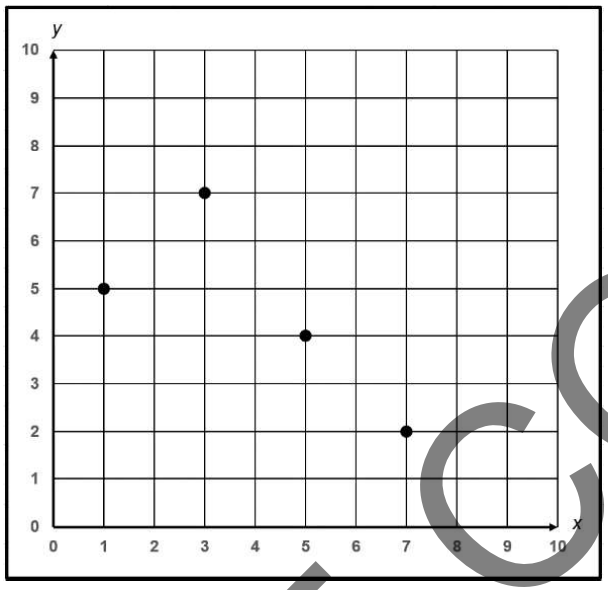
G (6, 5)

H (5, 6)

J (6, 2)

2 (5.8C)

Four points are plotted on the coordinate grid



Which table represents the data plotted in the graph?

A

x	*y*
1	5
3	7
5	4
7	2

B

x	*y*
1	5
7	3
5	4
7	2

C

x	*y*
5	1
7	3
4	5
2	7

D

x	*y*
5	1
7	3
5	4
2	7

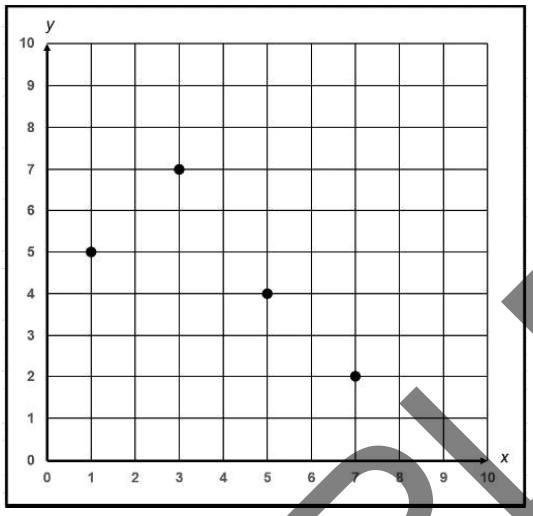
3 (5.8C)

A table of ordered pairs is shown.

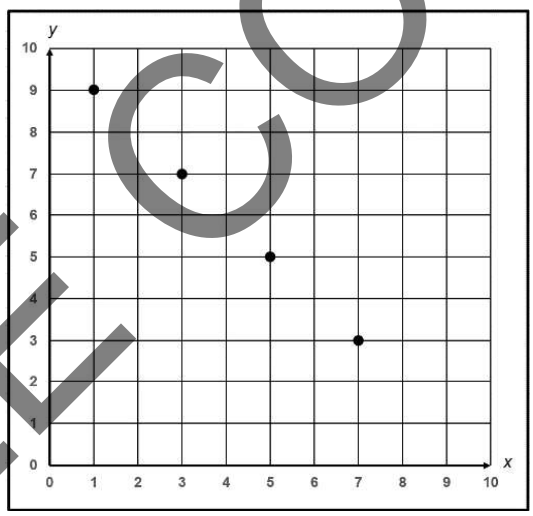
Which graph represents these ordered pairs?

x	1	3	5	7
y	9	7	5	3

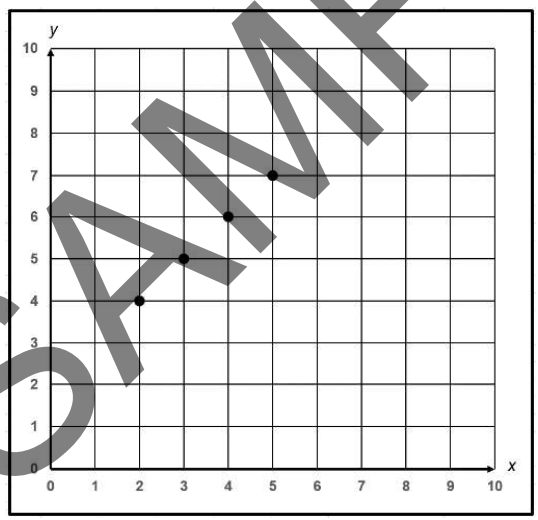
F



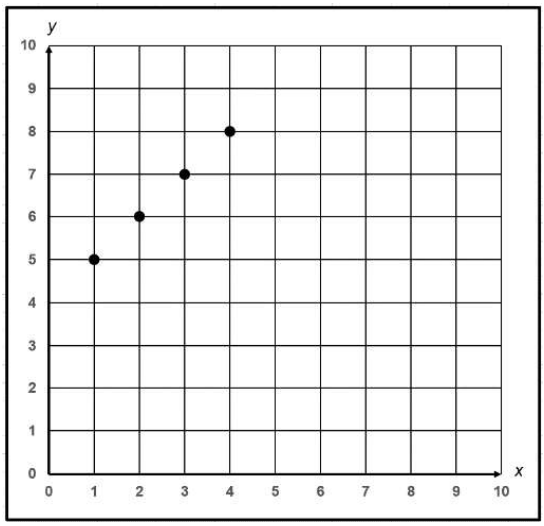
G



H



J



Spiral 61

1 (5.4D)

The table represents a relationship between *x* and *y*.

x	*y*
100	300
200	600
300	900
400	1200
500	1500

Which statement about the pattern represented on the table is true.

A It is a multiplicative pattern, because each *y*-value has a higher value than the corresponding *x*-value.

B It is multiplicative pattern, because each *x*-value is multiplied by 3 to create the corresponding *y*-value.

C It is an additive pattern, because each *y*-value has a higher value than the corresponding *x*-value.

D It is an additive pattern because each *x*-value is increased by 1000 to create the corresponding *y*-value.

2 (5.3H)

While playing a game, Riley Jones put his initials in several boxes on the game board, as shown. Thomas Wilson put his initials in other boxes.

RJ		TW	
	RJ		
		RJ	
TW			RJ

How much more of the game board did Riley Jones initial than Thomas Wilson?

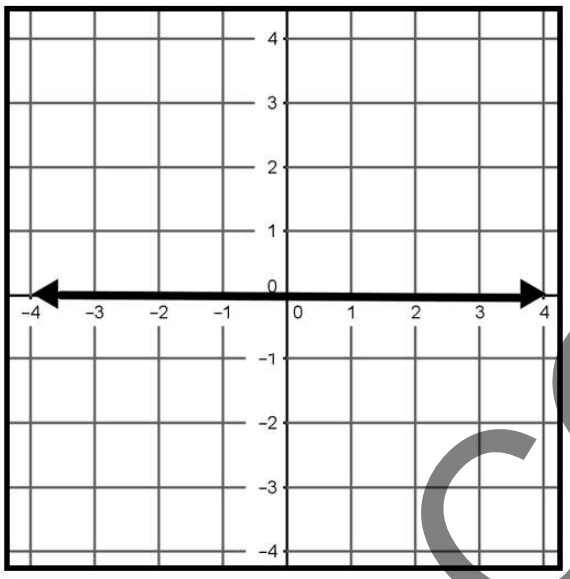
F $\frac{1}{8}$

G $\frac{5}{8}$

H $\frac{9}{16}$

J $\frac{3}{8}$

3 (5.8A)



Which is NOT true about the line shown on the coordinate graph?

A The line is called the *x*-axis.

B The line is called the *y*-axis.

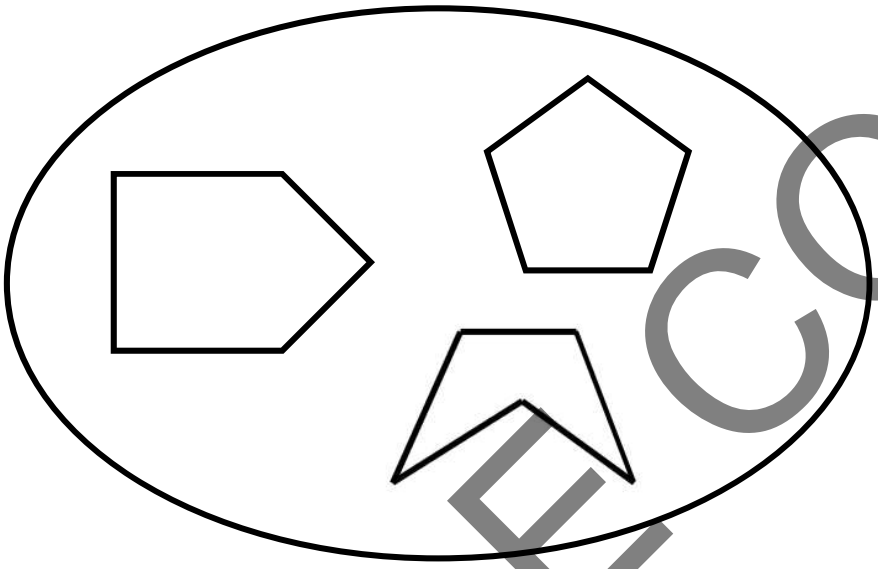
C All points on the line have a y-coordinate of 0.

D The line passes through the origin.

Spiral 62

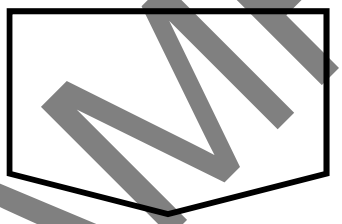
1 (5.5A)

Daniel sorted shapes based on their characteristics. He put these shapes inside a graphic organizer to indicate that all of the shapes share a common characteristic.

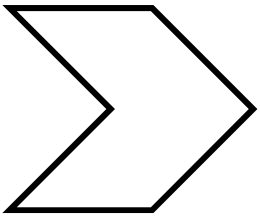


Which additional shape could Daniel include in his set?

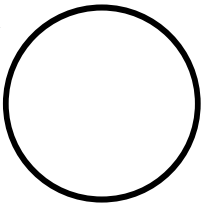
F



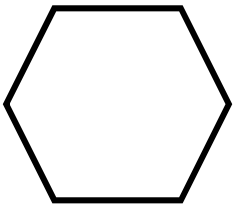
G



H



J



2 (5.7A)

Cade's new baby sister weighs 8 pounds 3 ounces. How much does she weigh in ounces?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

3 (5.9A)

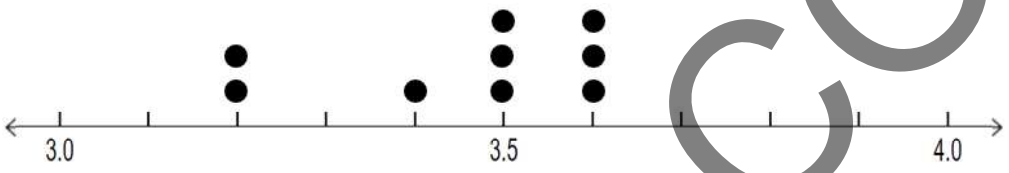
A scientist measured the mass of nine soil samples. The measurements are shown in the table.

Soil Samples

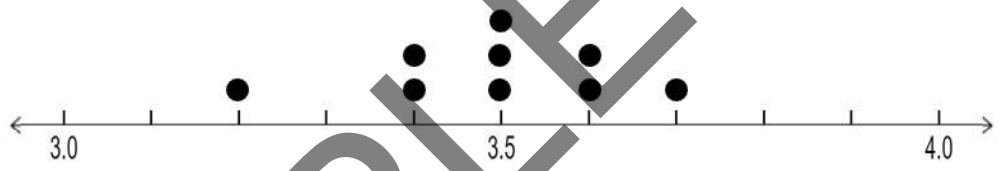
Sample	A	B	C	D	E	F	G	H	I
Mass (g)	3.2	3.6	3.6	3.5	3.5	3.2	3.6	3.4	3.5

Which dot plot best represents the data shown in the table?

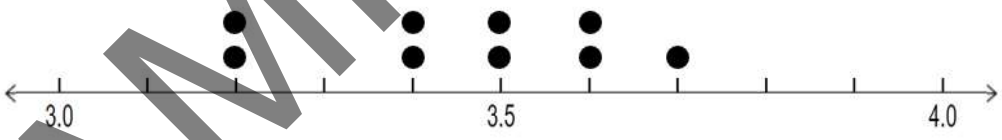
F



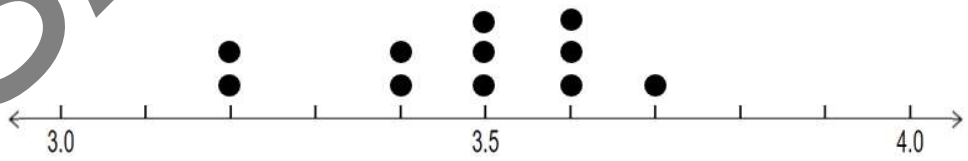
G



H



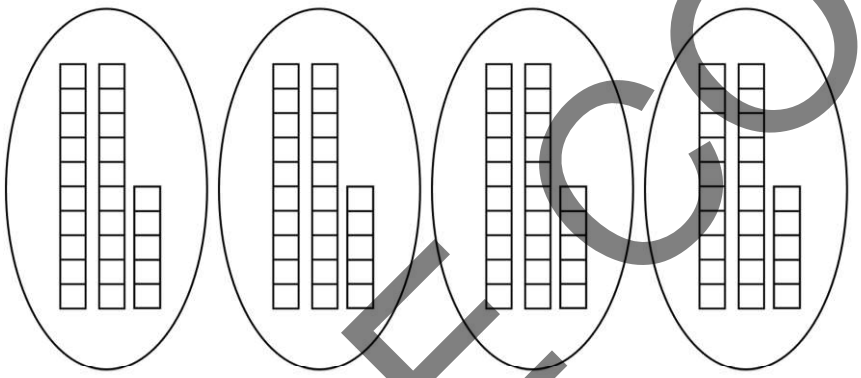
J



Spiral 63

1 (5.3D)

If the model above represents one whole, which equation is represented by the model below?



A 25 x 4 = 100

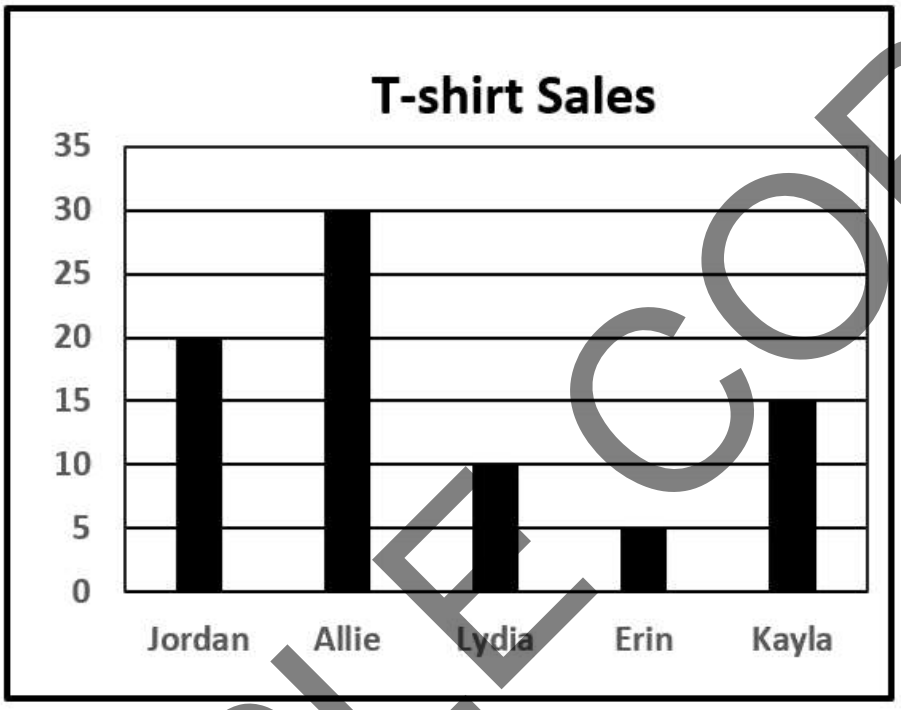
B 2.5 x 4 = 10

C 0.25 x 4 = 1

D 2.5 x 4 = 100

2 (5.9C)

The graph shows the amount earned by each cheerleader during the first week of t-shirt sales.



What is the total amount earned by the five cheerleaders in the first week of sales?

F $75

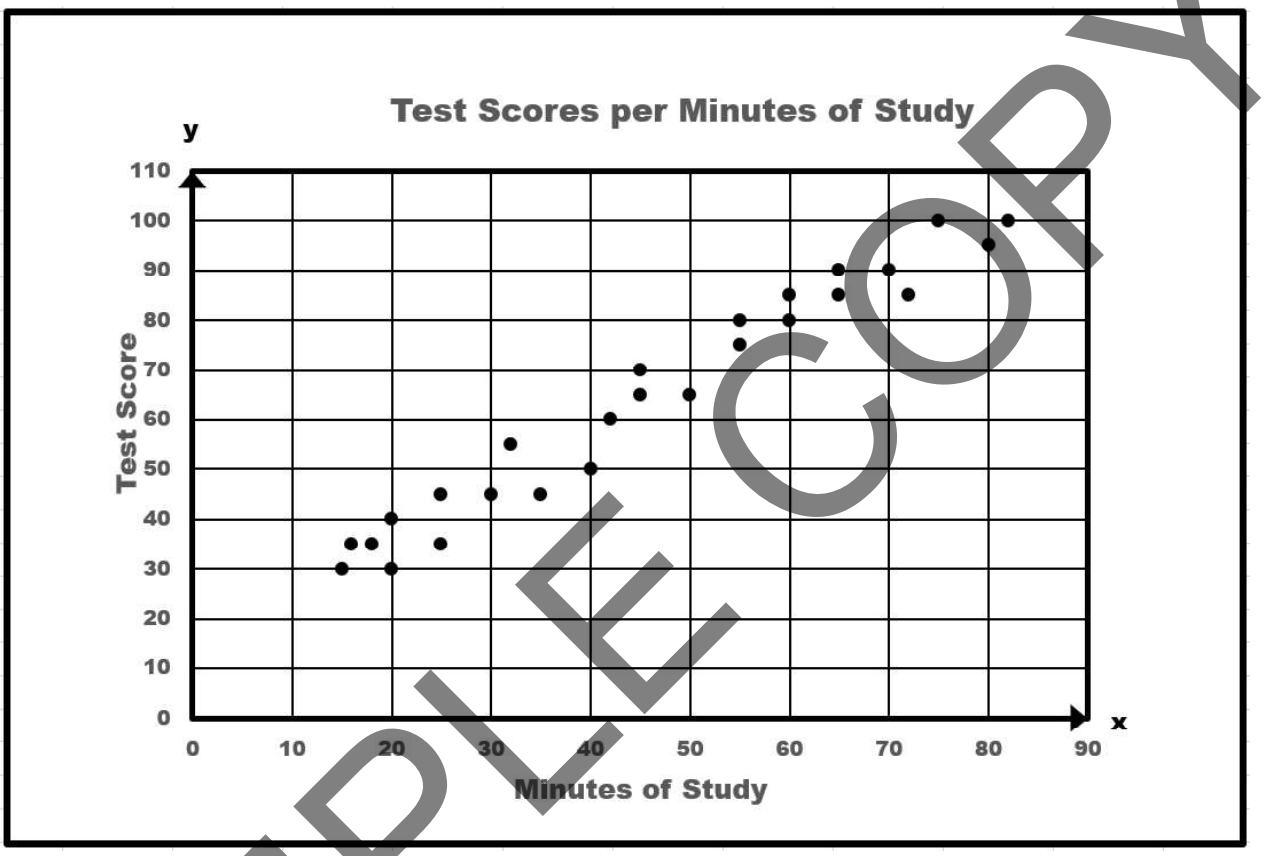
G $90

H $80

J $85

3 (5.9C)

The scatterplot represents the relationship between the number of minutes spent studying for a test and the student's score on the test.



How much longer did a student making a score of 95 study than a student who made a 50?

A 40 minutes

B 50 minutes

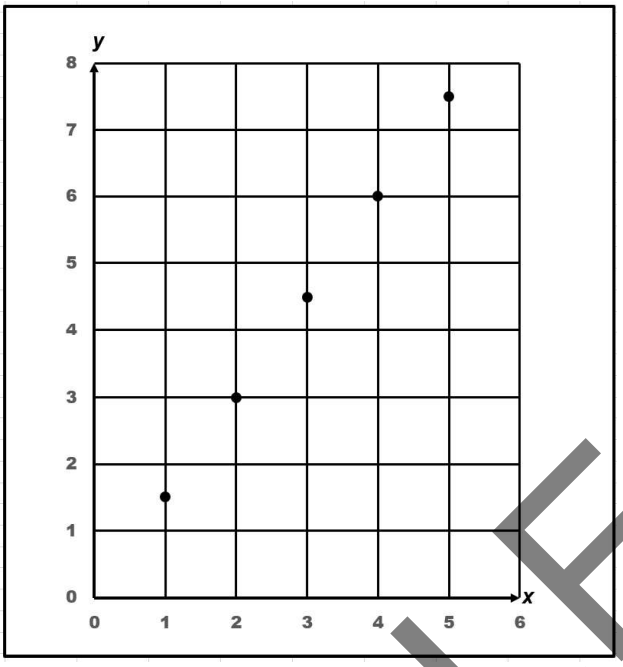
C 20 minutes

D 1 hour

Spiral 64

1 (5.4C)

A student created the graph and table below to represent the equation, $y = 1.5x$.



x	y
1	1.5
3	4.5
5	7.5
7	
9	13.5

What value for *y* will correctly complete the table?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.9A)

The stem-and-leaf plot represents the weight in pounds of 8 fifth grade students.

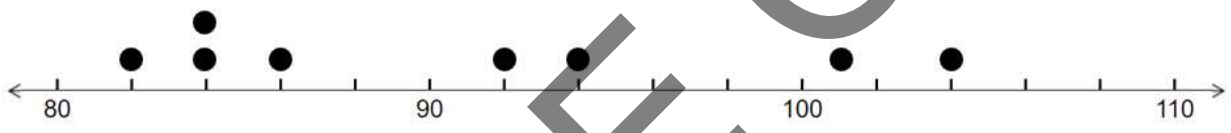
Student Weight

Stem	Leaf
8	2 4 4 5
9	2 4
10	1 4

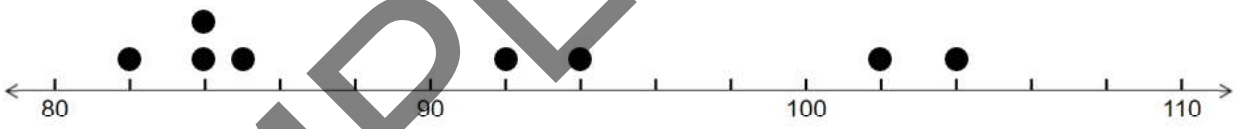
KEY
5|2 = 52

Which dot plot best matches the data shown in the graph?

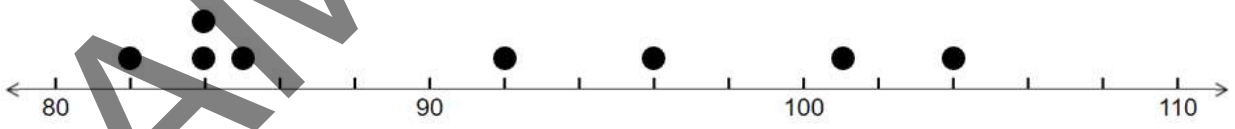
A



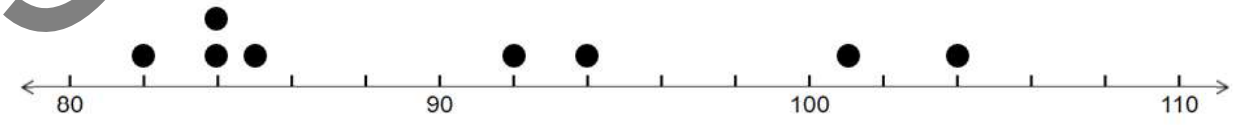
B



C



D

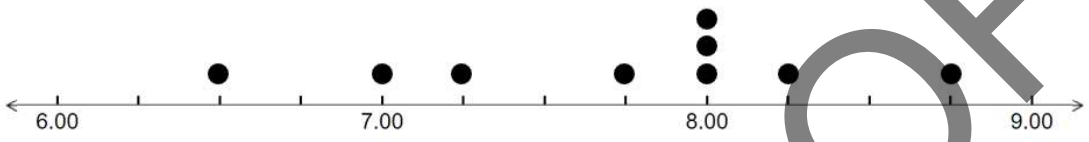


3 (5.9A)

A student measured the lengths of nine earthworms to the nearest $\frac{1}{4}-inch$.

The results are represented by the dot plot.

Earthworm Length



Which table best matches the data shown in the dot plot?

F

Sample	A	B	C	D	E	F	G	H	I
Length (in.)	8	8	$6\frac{1}{4}$	$8\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{1}{2}$	8	7	$7\frac{3}{4}$

G

Sample	A	B	C	D	E	F	G	H	I
Length (in.)	8	8	$6\frac{1}{2}$	$8\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{1}{4}$	8	7	$7\frac{3}{4}$

H

Sample	A	B	C	D	E	F	G	H	I
Length (in.)	8	7	$6\frac{1}{2}$	$8\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{1}{4}$	8	7	$7\frac{3}{4}$

J

Sample	A	B	C	D	E	F	G	H	I
Length (in.)	8	8	$6\frac{1}{2}$	$8\frac{3}{4}$	$7\frac{1}{4}$	$8\frac{1}{4}$	8	7	$7\frac{1}{2}$

Spiral 65

1 (5.4F)

What is the value of the expression shown?

$$(25-8)\times 22$$

A 374

B 388

C 151

D 415

2 (5.9C)

The frequency table shows student choices for favorite color.

Color	Frequency
Red	𝍸
Blue	𝍸
Yellow	/
Green	//
Orange	/
Purple	//

What fraction of the students chose red or blue?

F $\frac{5}{16}$

G $\frac{5}{8}$

H $\frac{5}{3}$

J $\frac{5}{6}$

3 (5.2A)

The balance of Kim's savings account in dollars is shown in expanded notation.

$$(5 \times 1000) + (2 \times 100) + (2 \times 0.1) + (5 \times 0.01)$$

What is the balance of Kim's savings account?

A $5,020.25

B $5,200.52

C $5,202.50

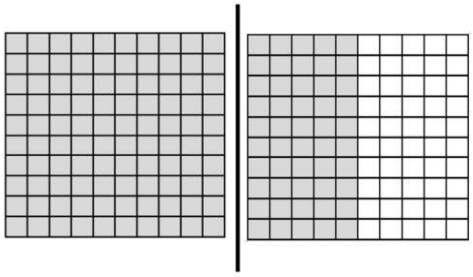
D $5,200.25

Spiral 66

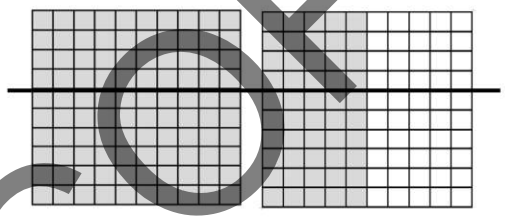
1 (5.3F)

Which model represents 1.5 ÷ 2?

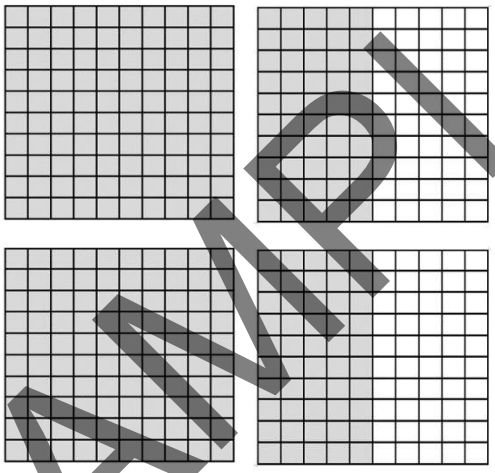
F



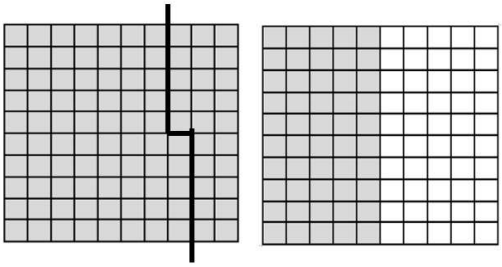
G



H



J



2 (5.3E)

What is the product of 32.4 and 23.2?

A 751.68

B 821.48

C 632.88

D 748.48

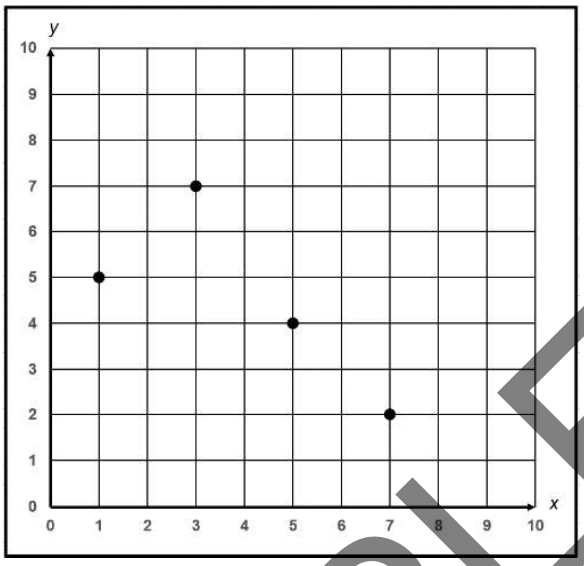
3 (5.8C)

A table of ordered pairs is shown.

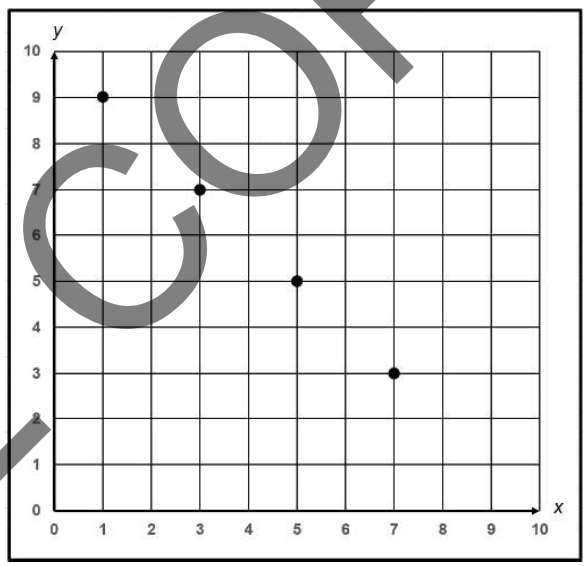
x	2	3	4	5
y	4	5	6	7

Which graph represents these ordered pairs?

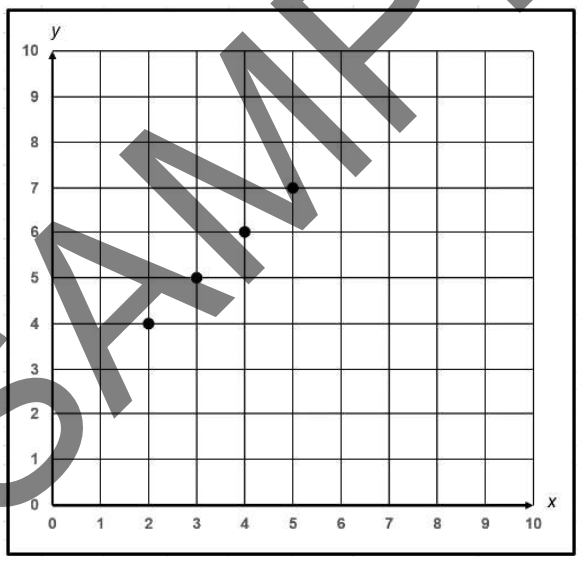
F



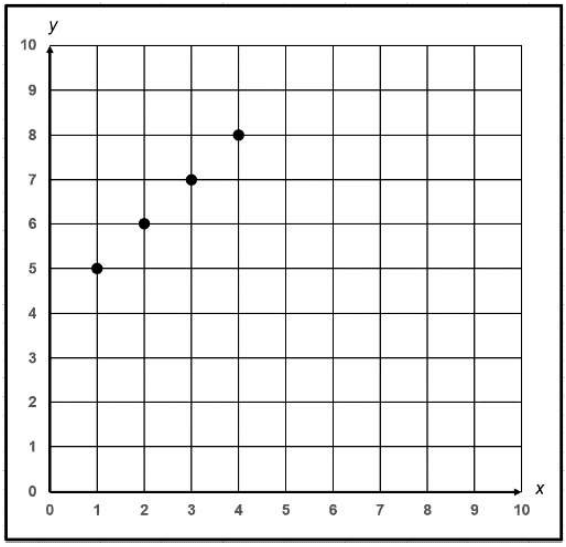
G



H



J



Spiral 67

1 (5.3G)

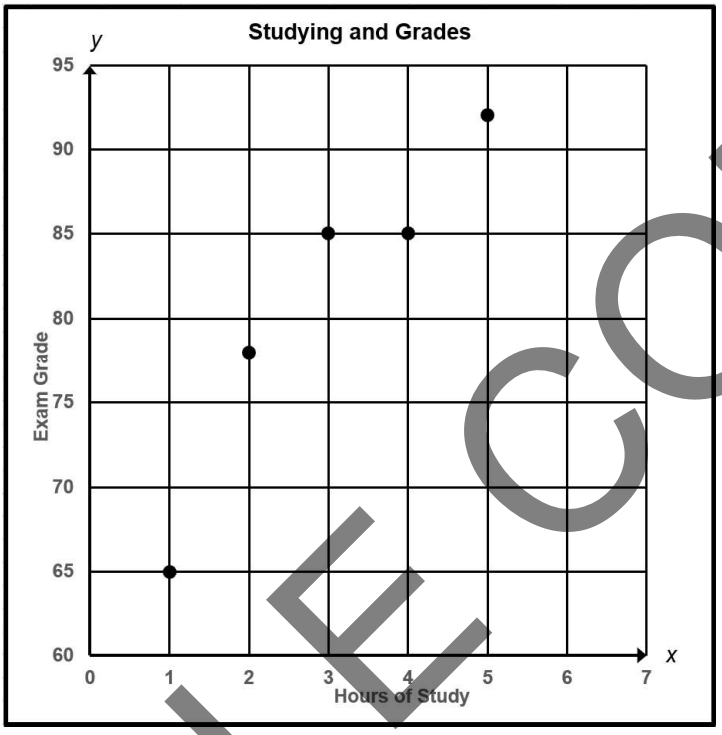
Eddie saved $61.65 over 9 weeks. He saved the same amount of money each week. How much money did Marcus save each week?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.9B)

The scatter plot shows the relationship between student exam scores and the number of hours spent studying for the exam.



Which table is represented by the data in the scatter plot?

F

Name	Hours	Score
Andrew	3	85
Byron	1	65
Zeph	5	98
Carson	2	78
Keith	4	85

G

Name	Hours	Score
Andrew	3	85
Byron	1	65
Zeph	5	92
Carson	2	78
Keith	4	85

H

Name	Hours	Score
Andrew	3	85
Byron	1	63
Zeph	5	92
Carson	2	78
Keith	4	85

J

Name	Hours	Score
Andrew	3	85
Byron	1	65
Zeph	5	92
Carson	2	74
Keith	4	85

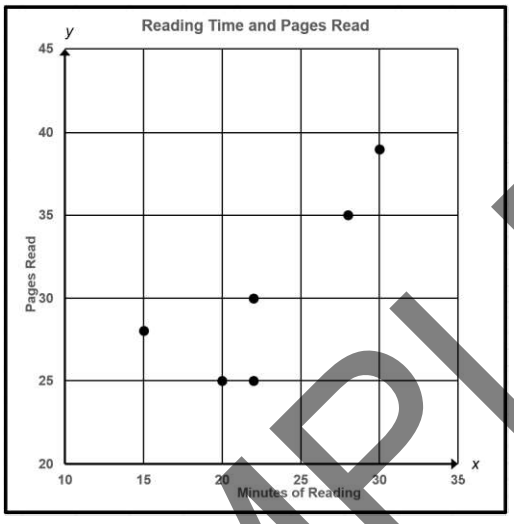
3 (5.9B)

The table shows the number of minutes six students spent reading and the number of pages each student read.

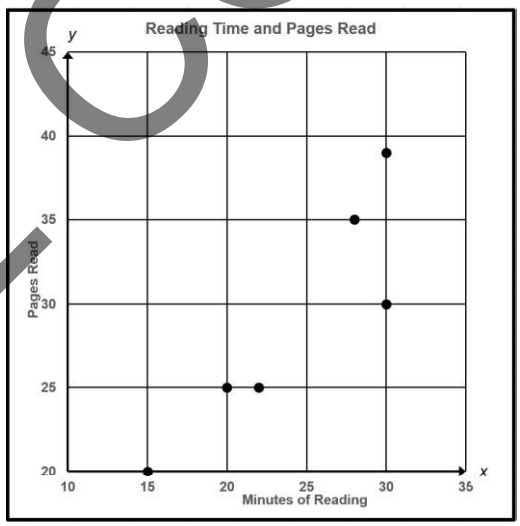
Name	Minutes	Pages
Brenna	15	22
Katya	30	39
Ralph	20	25
Angela	22	28
Tara	22	25
Simeon	28	35

Which scatter plot matches the data in the table?

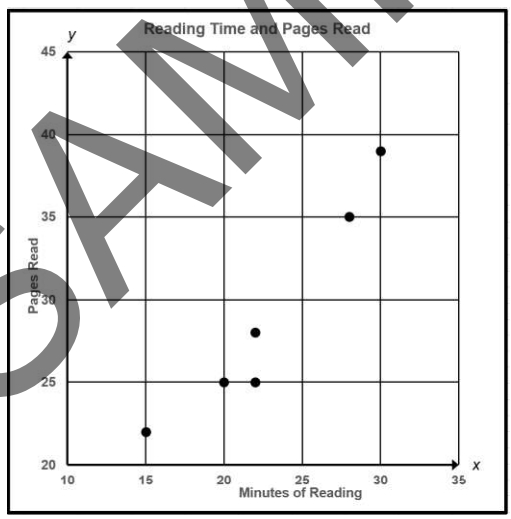
A



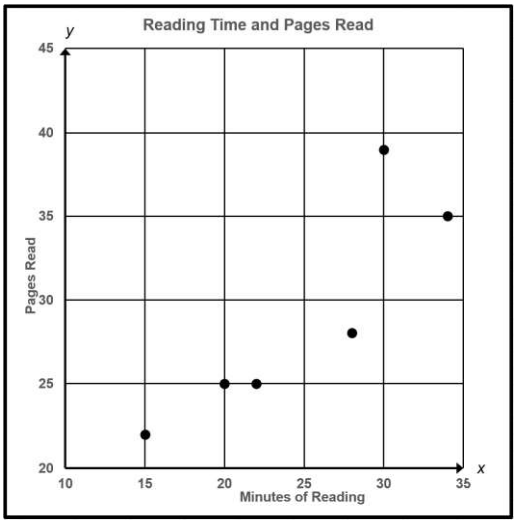
B



C



D



Spiral 68

1 (5.4H)

Each side of a pentagon measures 5.6 centimeters. What is the perimeter of the pentagon?

F 33.6 cm

G 44.8 cm

H 31.36 cm

J 28 cm

2 (5.3A)

Scientists observe that a hummingbird will drink 4.8 milliliters of sugar water from a hummingbird feeder each day. If the local population of hummingbirds is 382 birds, what is the best estimate of the amount of sugar water consumed by the hummingbird population over the period of a month?

A 2,000 milliliters

B 50,000 milliliters

C 60,000 milliliters

D 600,000 milliliters

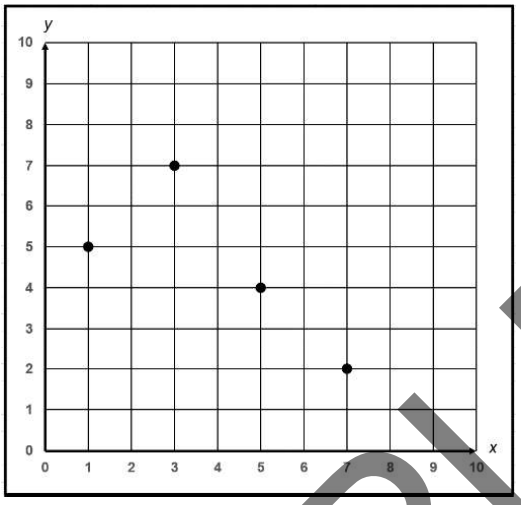
3 (5.8C)

A table of ordered pairs is shown.

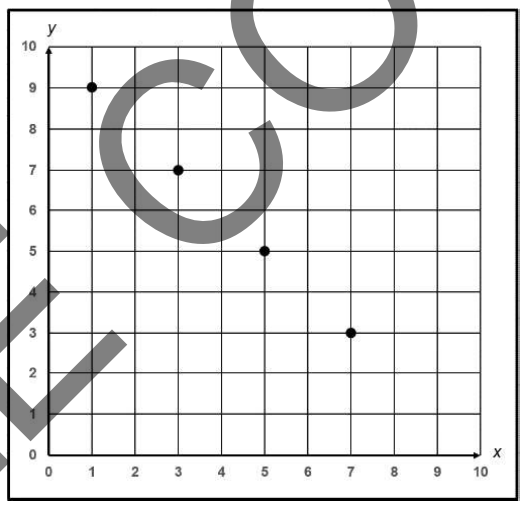
x	1	2	3	4
y	5	6	7	8

Which graph represents these ordered pairs?

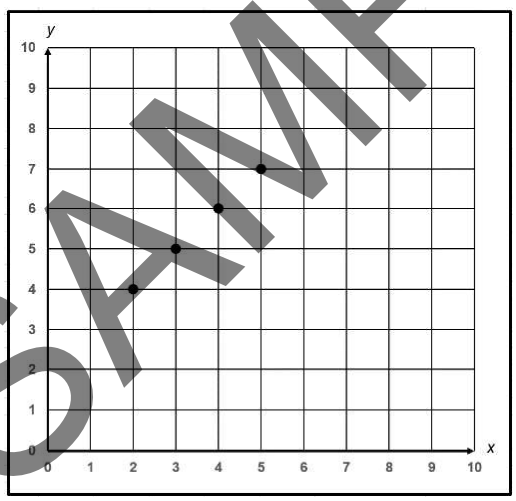
F



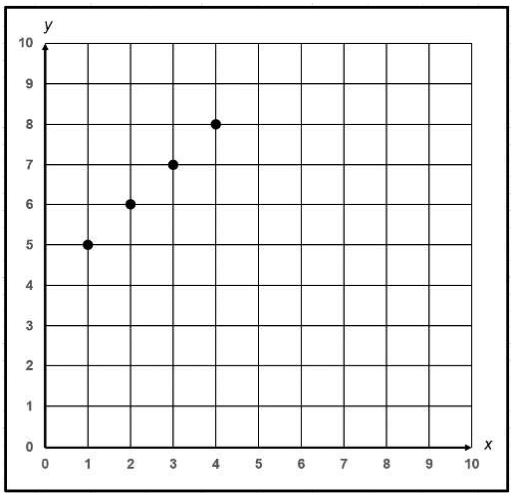
G



H



J



Spiral 69

1 (5.2B)

Which list does NOT show the numbers in order from least to greatest?

A $3.002 < 3.02 < 3.2 < 3.203$

B $4.105 < 4.15 < 4.51 < 5.41$

C $2.16 < 2.106 < 2.61 < 2.061$

D $0.203 < 0.23 < 0.302 < 0.32$

2 (5.4F)

What is the value of the expression shown?

$$[24.2 \times (5 + 17)] - 11$$

F 515.2

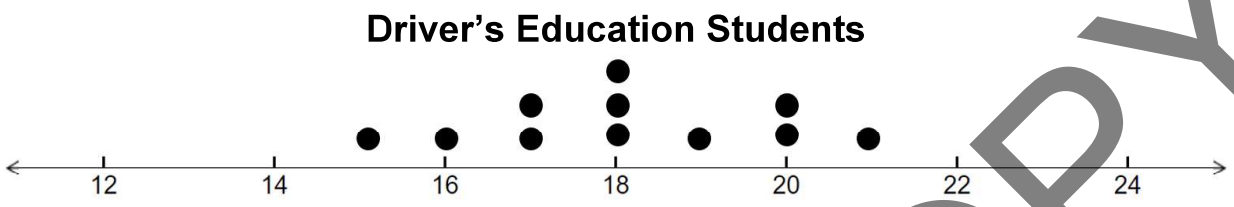
G 521.4

H 486.4

J 562

3 (5.9C)

The dot plots show the ages of students enrolled in a driver's education program.



What fraction of the students are less than 18 years old?

A $\frac{7}{11}$

B $\frac{4}{7}$

C $\frac{4}{11}$

D $\frac{1}{3}$

Spiral 70

1 (5.10A)

Which of these is not an example of a property tax?

F tax on a car a person owns

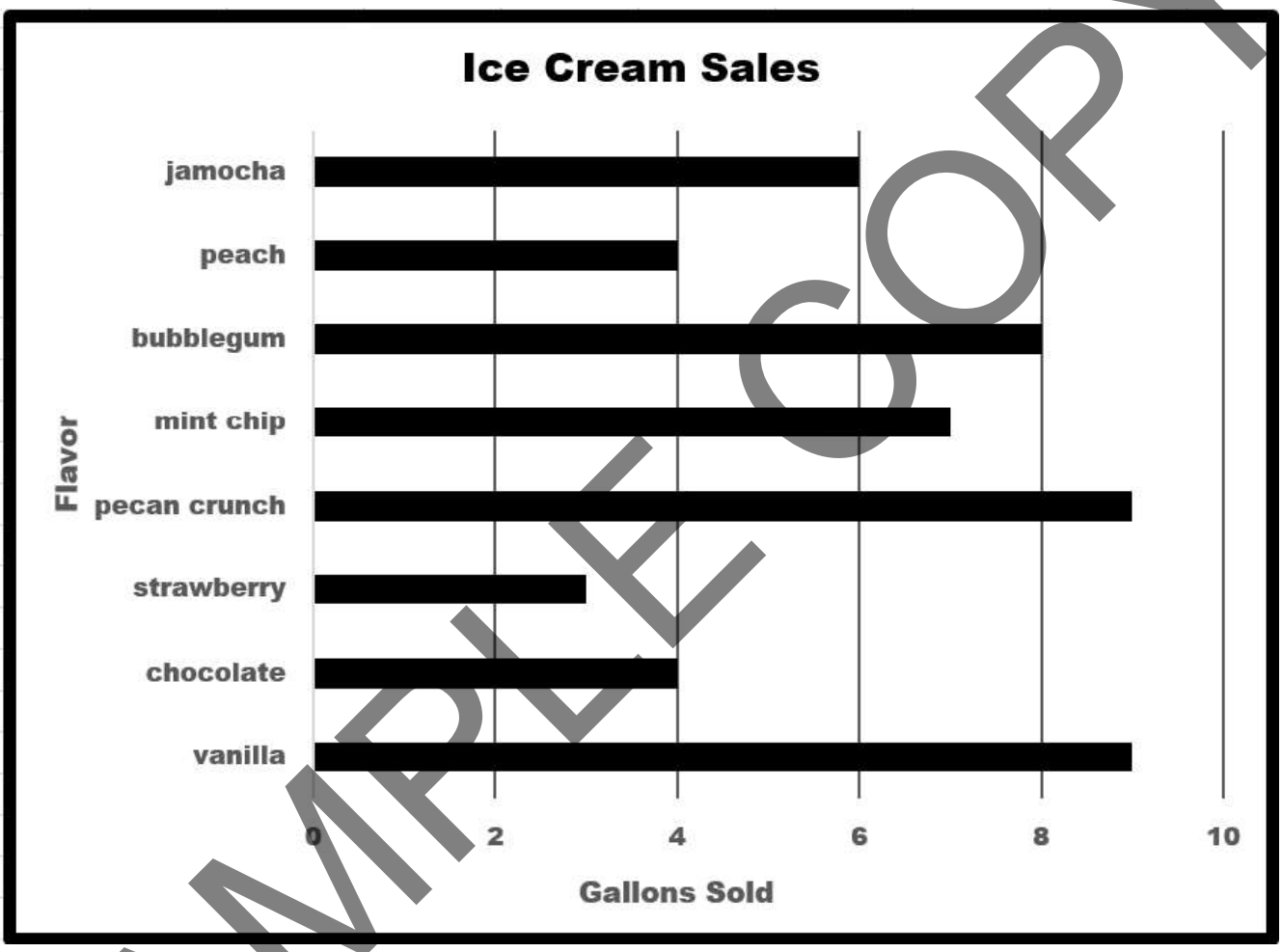
G tax on a ranch a person owns

H tax on a home a person owns

J tax on land a person owns

2 (5.9C)

The graph shows the number of gallons of different ice cream flavors sold in July.



How many more gallons of jamocha, bubblegum and mint chip were sold than vanilla?

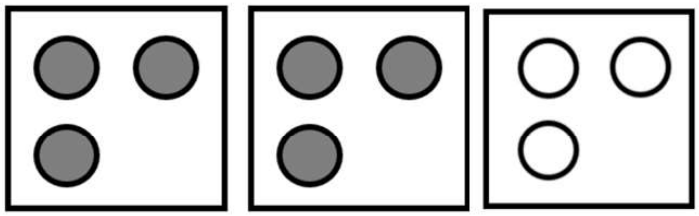
A 11 gallons

B 14 gallons

C 10 gallons

D 12 gallons

3 (5.3I)



Which equation is represented by the model?

F $2 \times \frac{1}{3} = \frac{3}{2}$

G $3 \times \frac{3}{4} = \frac{9}{4}$

H $\frac{1}{3} \times 9 = 3$

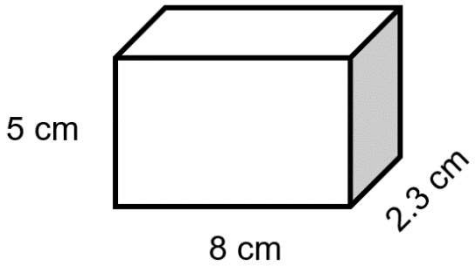
J $\frac{2}{3} \times 9 = 6$

Spiral 71

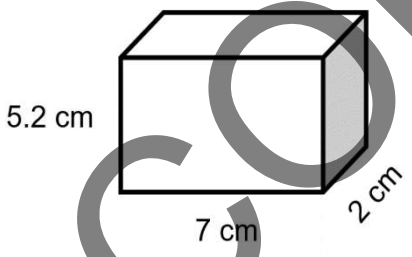
1 (5.4H)

Which rectangular prism has a volume of 222 cubic centimeters?

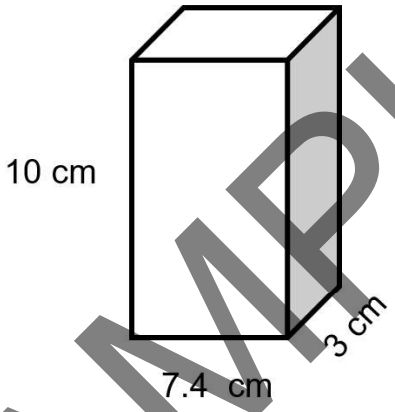
A



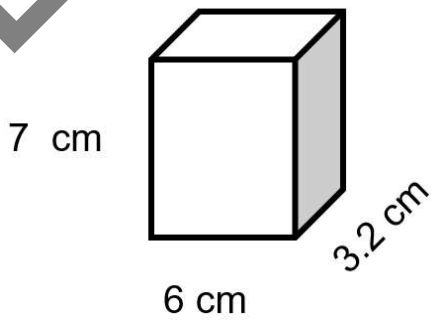
B



C



D



2 (5.3B)

Mr. Billings net income for the month is $3,428. The table shows his monthly expenses.

Expenses and Savings	
Housing	$1,328
Auto	$472
Food	$550
Other	$500
Savings	

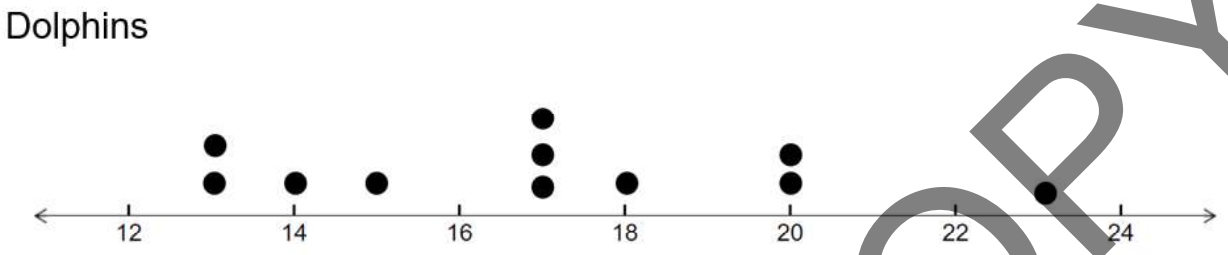
If Mr. Billings has no other expenses, how much should he be able to put into savings each month?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

3 (5.9A)

The ages of the swimmers on the Dolphins Swim Team are represented by the dot plot.



Which frequency table best matches the data in the dot plot?

A

Age	13	14	15	16	17	18	19	20	21	22	23
Swimmers	///	/	/		///	/		//			/

B

Age	13	14	15	16	17	18	19	20	21	22	23
Swimmers	//	/	/		///	/		//			/

C

Age	13	14	15	16	17	18	19	20	21	22	23
Swimmers	//	/	/		////	/		//			

D

Age	13	14	15	16	17	18	19	20	21	22	23
Swimmers	//	/	/		///	/		//		/	/

Spiral 72

1 (5.4A)

A math teacher had students write what they knew about prime numbers. Her students' responses are shown below.

- Michael: All prime numbers are odd.
- Becca: All prime numbers are less than 100.
- Ahmed: Prime numbers have only one factor pair; one and the number.
- Jasmine: Prime numbers have only composite factors.

Which student(s) made the correct statement?

F Michael and Becca

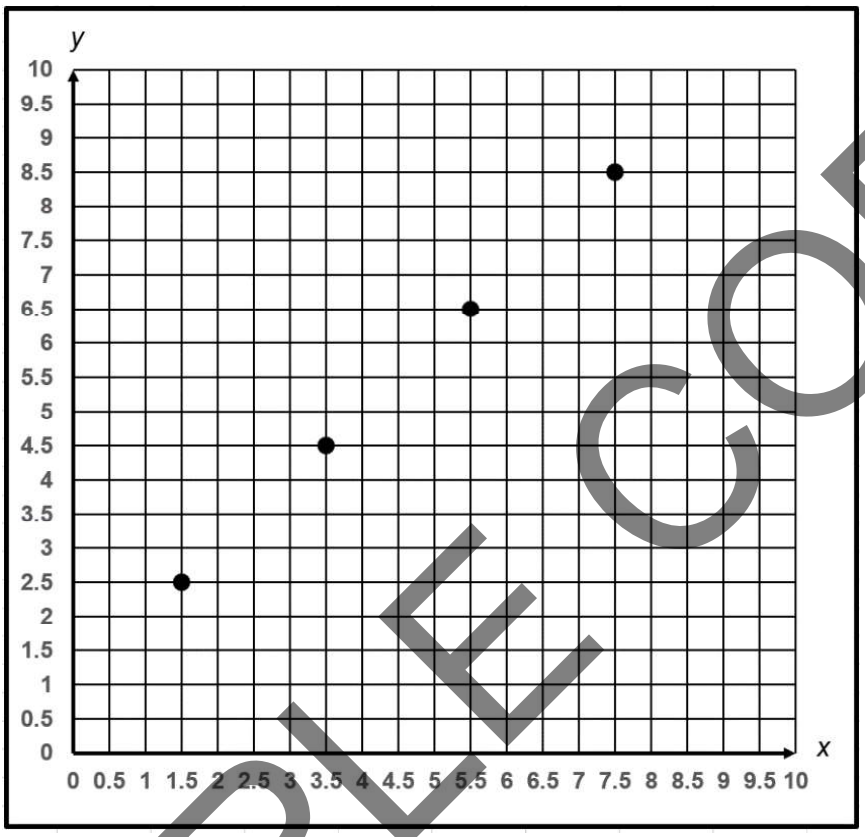
G Ahmed and Jasmine.

H only Ahmed

J only Becca

2 (5.8C)

Four points are shown on the coordinate grid.



Which of the ordered pair represents one of the points on the grid?

A (5.5, 4.5)

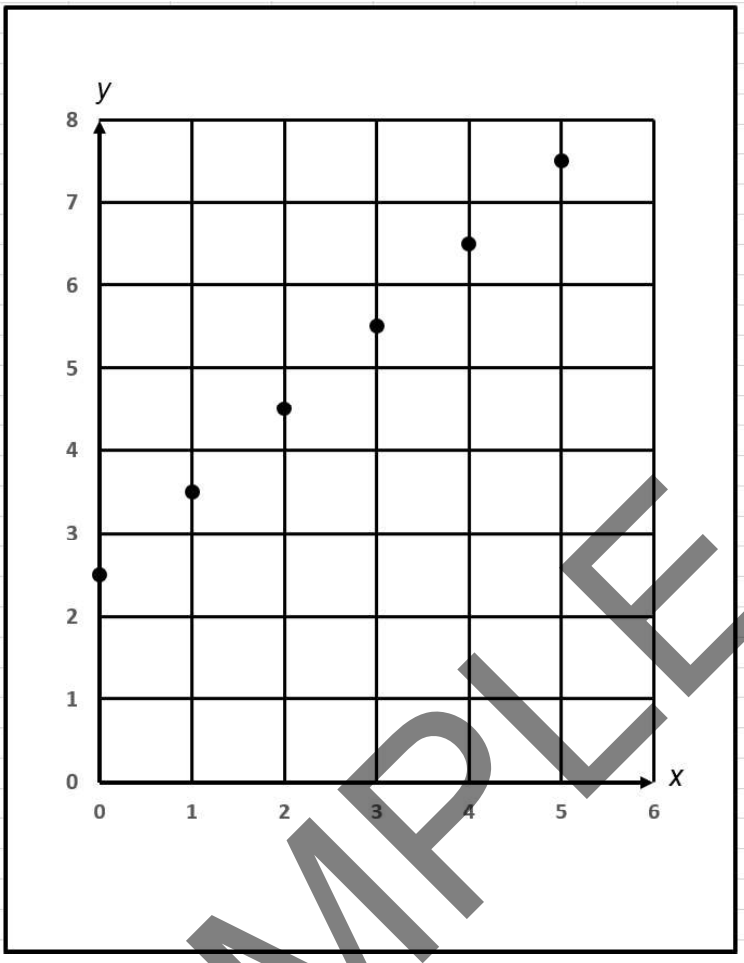
B (3.5, 4.5)

C (4.5, 3.5)

D (5.5, 4.5)

3 (5.4C)

A student created the graph and table below to represent the equation, $y = x + 2.5$.



x	y
0	2.5
1.5	4
4	6.5
8.5	
12.5	15

What value for y will correctly complete the table?

F 13

G 11.5

H 10.5

J 11

Spiral 73

1 (5.5A)

Renaldo classified shapes based on whether or not they had at least one pair of parallel sides.

Shapes and Parallel Lines

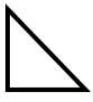
At Least One Pair Parallel	No Parallel Lines
	
	
	

Which two shapes need to switch places in the table?

A  and 

B  and 

C  and 

D  and 

2 (5.4E)

What is the first step in simplifying this expression?

$$24 \div [(4 + 2) - 3]$$

F divide 24 by 4

G add 4 and 2

H divide 24 by 3

J subtract 3 from 6

3 (5.3G)

A math problem is shown

$$16\overline{)15.36}$$

What is the quotient?

A 0.94

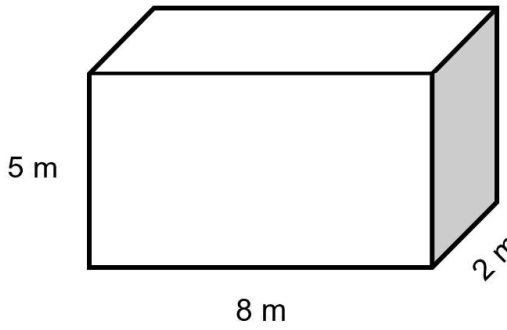
B 0.86

C 0.96

D 0.06

Spiral 74

1 (5.4H)



What is the volume of the rectangular prism?

F 50 cubic meters

G 60 cubic meters

H 80 cubic meters

J 26 cubic meters

2 (5.3E)

Amy earns $2.75 each time she walks the neighbor's dog. Last week she walked the neighbor's dog 12 times. How much did Amy earn last week?

A $32.00

B $33.25

C $33.00

D $32.50

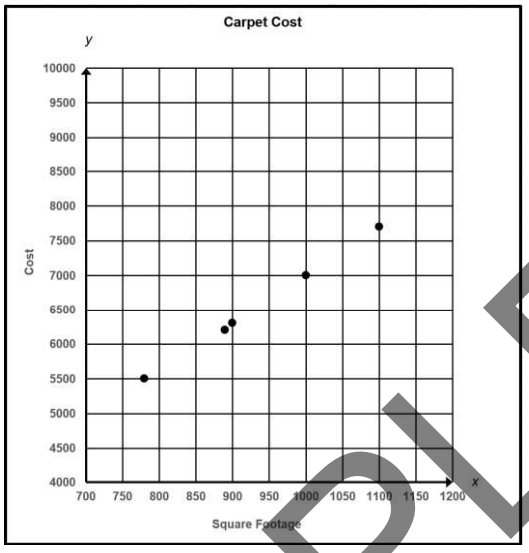
3 (5.9B)

The table shows the estimated cost of carpeting five apartments based on square footage.

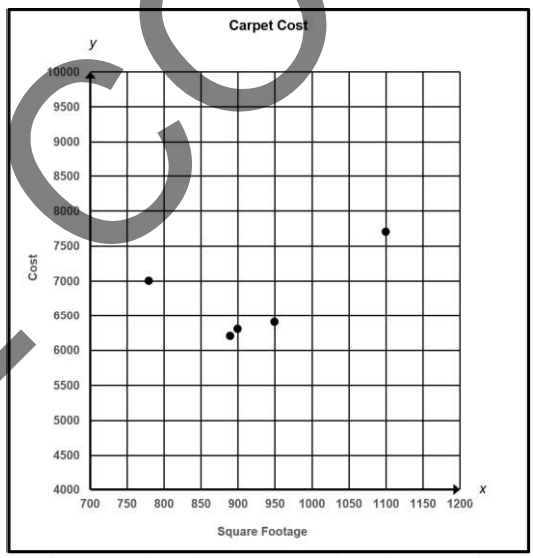
Apartment	Square Feet	Cost
A	950	$6,400
B	780	$5,500
C	1100	$7,700
D	890	$6,200
E	900	$6,300

Which scatter plot represents the data from the table?

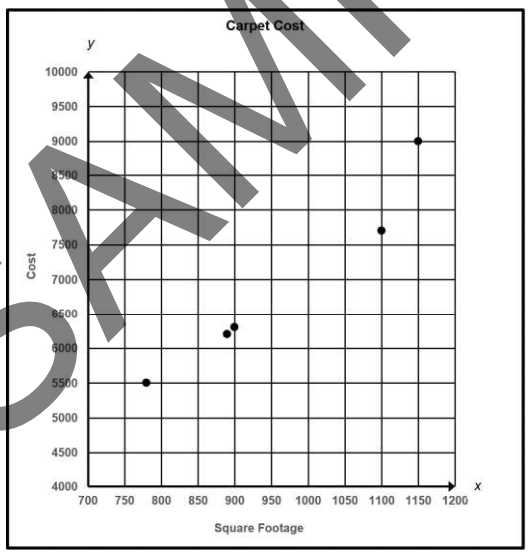
F



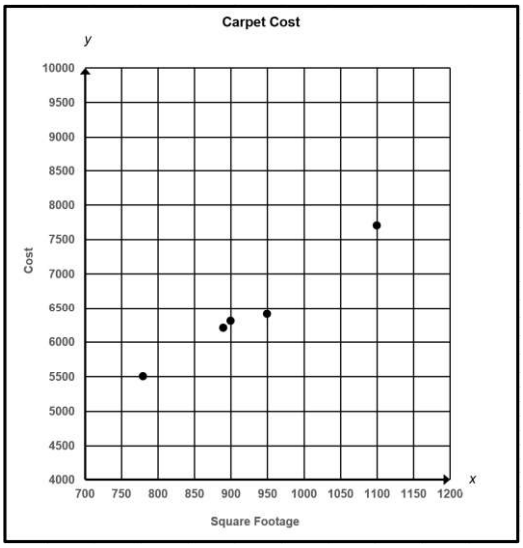
G



H



J



Spiral 75

1 (5.3C)

A school bus can carry 48 students. How many buses are needed to transport 656 students?

A 13

B 14

C 15

D 12

2 (5.10B)

A company made $30,000 making and selling plastic cups. After they paid their workers, the plastics company, and the electric bill, they had $4,000 left.

Which of these statements is true?

F The company had a gross income of $30,000 and a net income of $4,000.

G The company had a net income of $30,000 and a gross income of $4,000.

H The company had a gross income of $30,000 with no net income.

J The company had a gross income of $30,000 and a net income of $26,000.

3 (5.10E)

Mr. Jones budgeted $255 a month for gasoline for his car. In December gas prices increased sharply, and gasoline cost Mr. Jones an extra $50. Which of these is NOT a way Mr. Jones can stay within his budget?

A drive faster, so he will not be driving for as long a time

B eat out less and use that money to make up for the increase gas cost

C work extra hours to increase his income

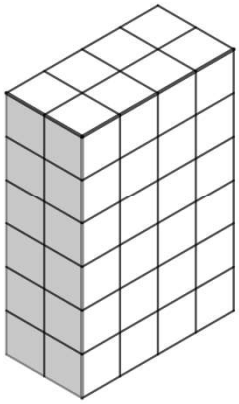
D save money by renting movies for home, instead of going to the theater

Spiral 76

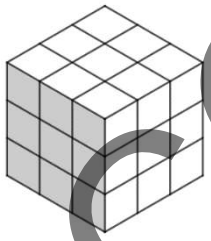
1 (5.6A)

A student builds some rectangular prisms using cubes that each have a volume of 1 cubic centimeter. Which rectangular prism has a volume of 120 cubic centimeters?

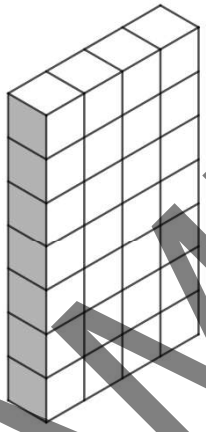
F



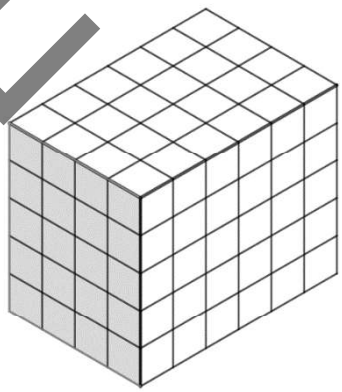
G



H



J



2 (5.10A)

A definition of a financial term is shown in the box

a tax on the amount of money earned by an employee

A sales tax

B property tax

C income tax

D estate tax

3 (5.2B)

In swimming the world record time for the 50-meter butterfly is 22.96 seconds.

Which of the following times would break the world record?

F 22.97 seconds

G 22.963 seconds

H 22.957 seconds

J 22.961 seconds

Spiral 77

1 (5.4F)

What is the value of the expression shown?

$$(27-15)\times\frac{1}{3}$$

A $\frac{1}{4}$

B 3

C 4

D $\frac{1}{3}$

2 (5.4B)

A concert hall has the following seating:

- 31 rows with 20 seats on each row
- 16 rows with 12 seats on each row
- 98 seats in the balcony

If 825 tickets are sold for a concert, which equation can be used to determine the number of remaining tickets (r)?

F $(31\times20)+(16\times12)+98-825=r$

G $825-(31\times20)-(16\times12)-98=r$

H $900-(31\times20)-(16\times12)-98=r$

J $(31\times20)+(16\times12)+98+825=r$

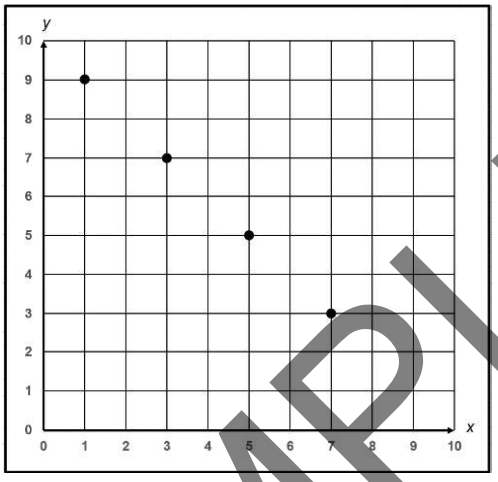
3 (5.8C)

The table shows a relationship between the input and the output where the output is four more than the input.

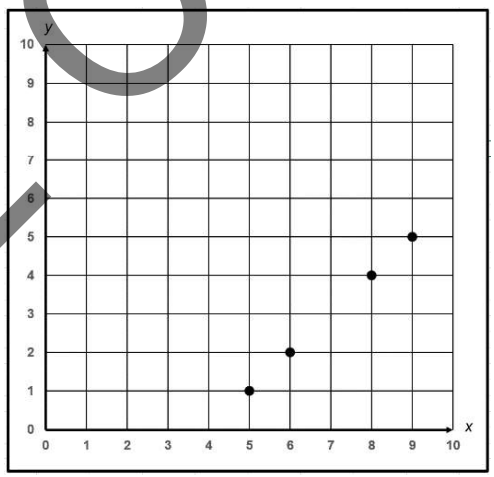
input (x)	output (y)
1	5
2	6
3	7
4	8

Which graph best represents the data from the table?

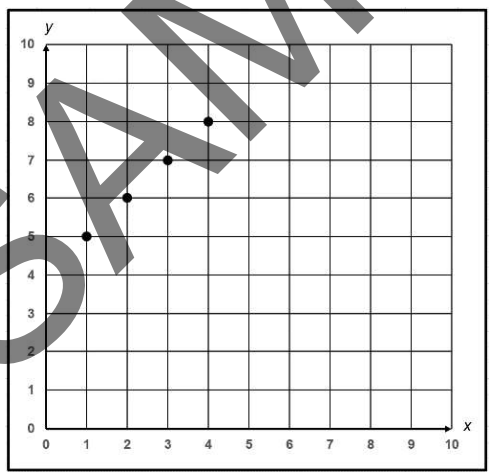
A



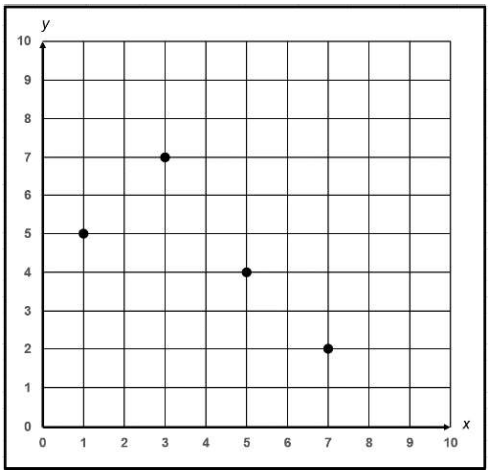
B



C



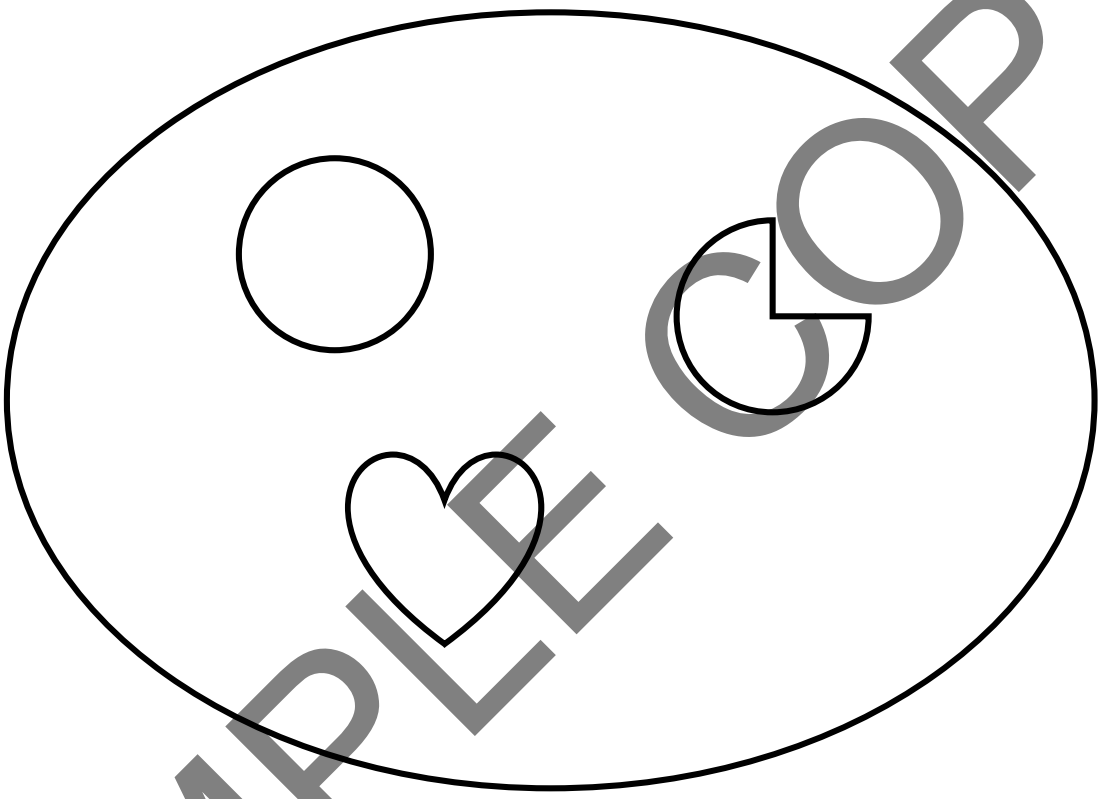
D



Spiral 78

1 (5.5A)

Ben sorted shapes based on their characteristics. He put these shapes inside a graphic organizer to indicate that all of the shapes share a common characteristic.



What is the common characteristic among the shapes?

F They are all polygons.

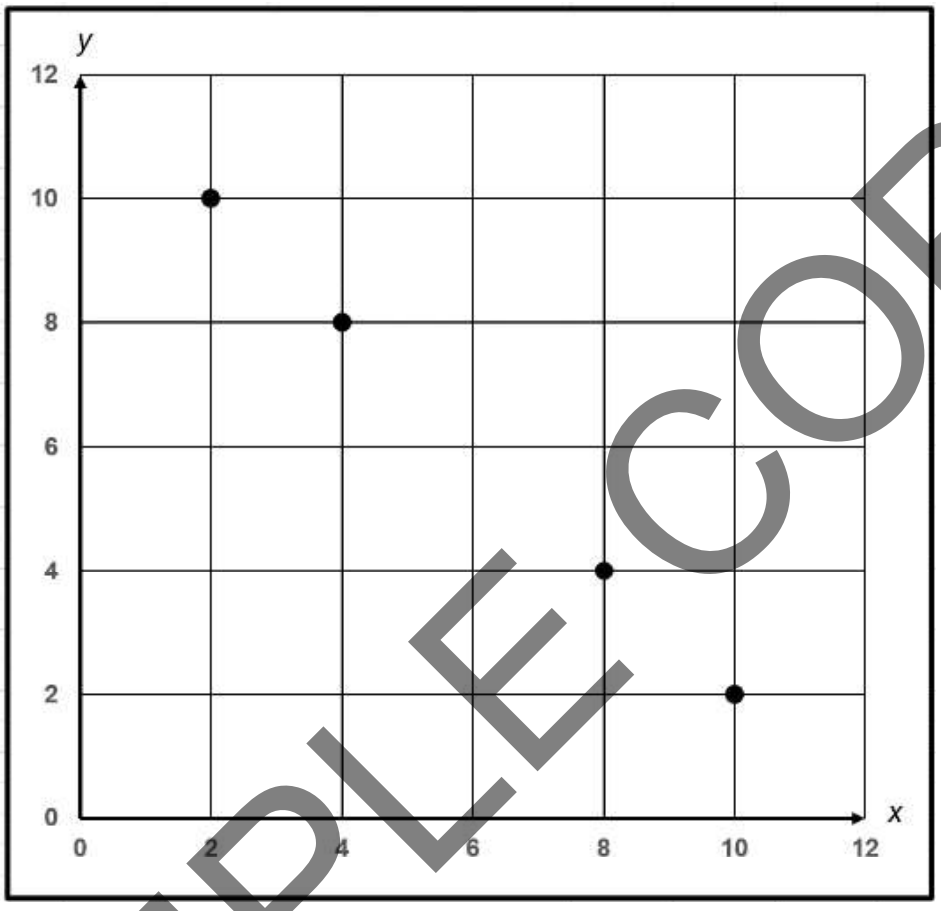
G They are closed figures, but they are not polygons.

H They are open figures.

J They are all quadrilaterals.

2 (5.8C)

Four points are shown on the coordinate grid.



Which ordered pair is NOT one of the points on the coordinate grid?

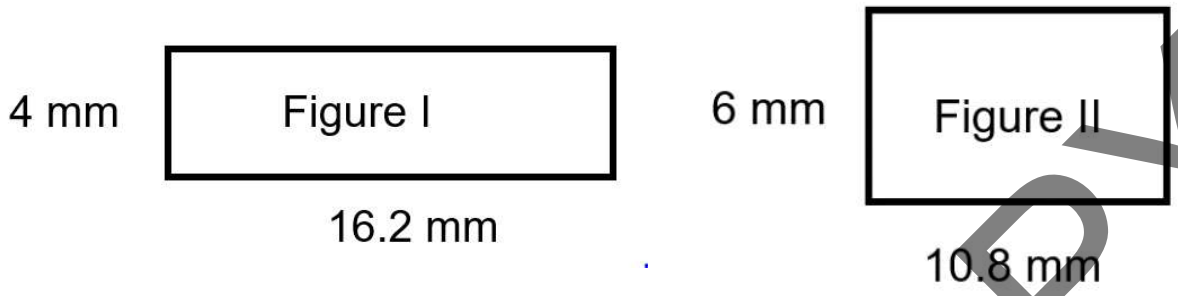
A (2, 10)

B (8, 4)

C (4, 2)

D (4, 8)

3 (5.4H)



What is the difference between the perimeter of Figure I and the perimeter of Figure II?

F 3.4 mm

G 6.8 mm

H 8.6 mm

J 4.3 mm

Spiral 79

1 (5.10F)

Elena takes a part time job to begin saving for college. All of her earnings will go into savings except for $35 per week that she budgets for gasoline. If Elena has a net income of $428 a month, how much will she be able to save and maintain her budget?

A $393

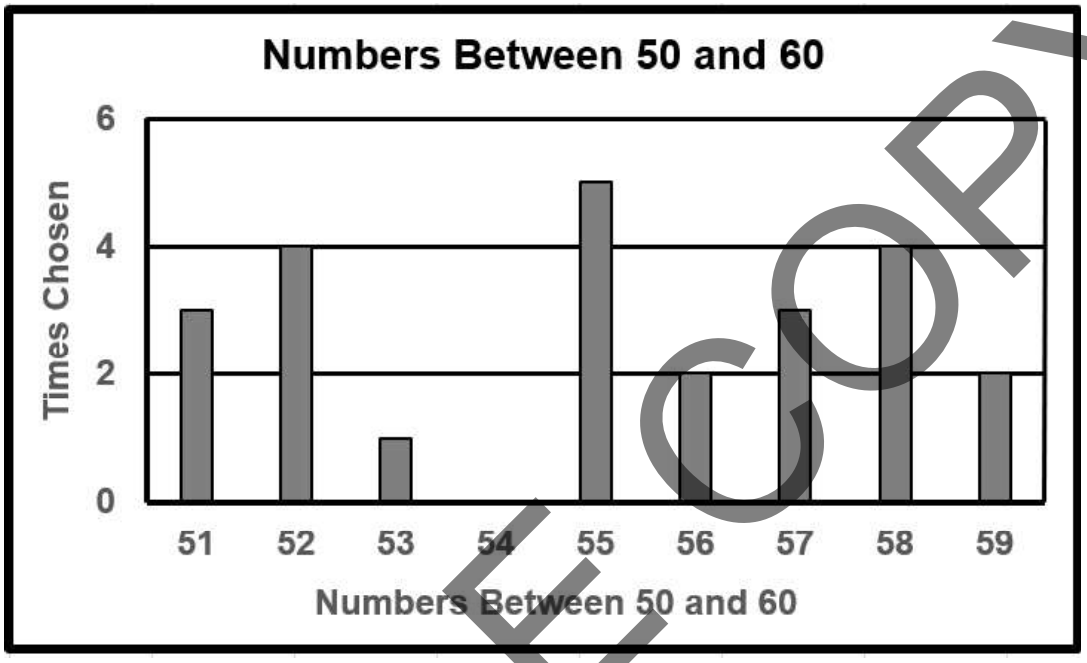
B $358

C $218

D $288

2 (5.9A)

Twenty-four students were asked to pick a number between 50 and 60. The bar graph represents the numbers the students selected.



F

Number	51	52	53	54	55	56	57	58	59
Chosen	///	////	/		𝍸	//	///	////	//

G

Number	51	52	53	54	55	56	57	58	59
Chosen	///	////	/	/	𝍸	//	//	///	//

H

Number	51	52	53	54	55	56	57	58	59
Chosen	///	///	/		𝍸	//	//	////	//

J

Number	51	52	53	54	55	56	57	58	59
Chosen	/	///	/		𝍸	//	//	////	///

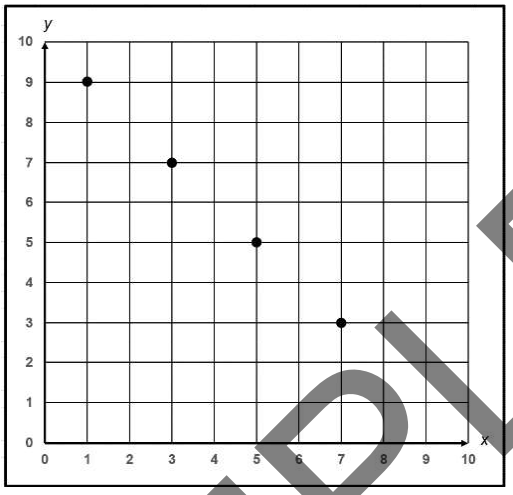
3 (5.8C)

The table shows a relationship between the input and the output where the output is four less than the input.

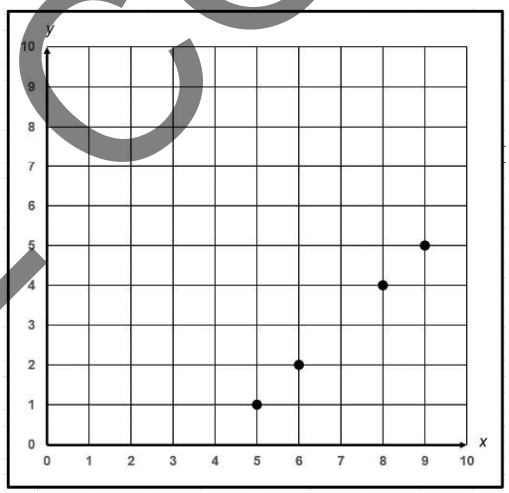
input (x)	output (y)
5	1
6	2
8	4
9	5

Which graph best represents the data from the table?

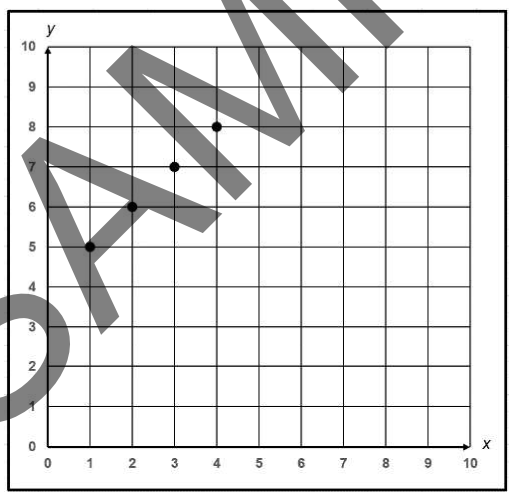
A



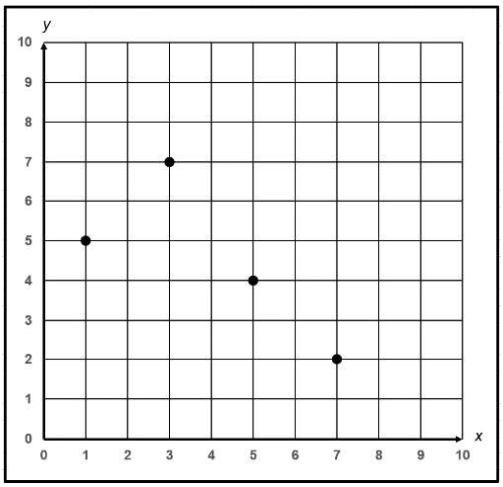
B



C



D



Spiral 80

1 (5.2C)

Which number would be 4.26 when rounded to the nearest hundredth and 4.3 when rounded to the nearest tenth?

F 4.268

G 4.254

H 4.261

J 4.252

2 (5.9C)

The stem-and-leaf plot shows spring math test scores.

Test Scores

Stem	Leaf
2	8
3	4
4	0 0 0 6 6
5	2 2 2 8 8
6	4 4 4 4
7	0 0 0 0 0 6 6 6 6
8	2 8 8 8 8 8 8
9	4 4 4 4
10	0 0 0 0

KEY
5|2 = 52

What is the difference between the greatest score and the least score?

A 72 points

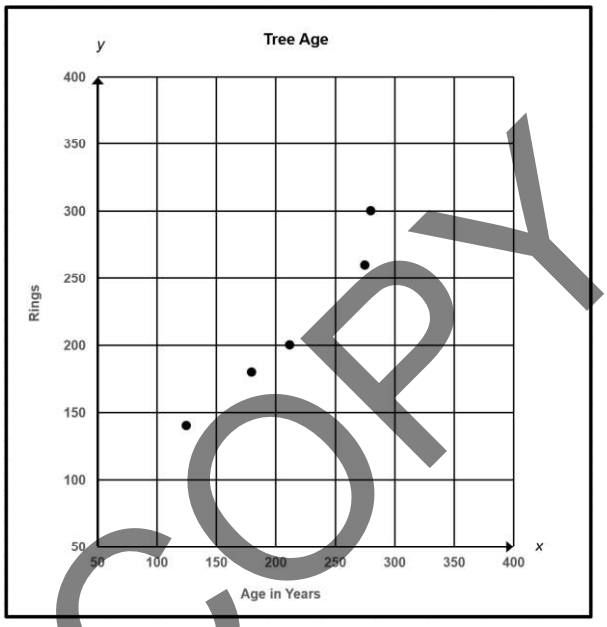
B 82 points

C 78 points

D 66 points

3 (5.9B)

The scatterplot depicts the relationship between the ages of 5 trees and the number of rings in a crosscut section of each tree.



Which table best matches the data in the graph?

F

Age	Rings
275	260
212	200
180	180
125	140
280	300

G

Age	Rings
275	260
350	290
180	180
125	140
280	300

H

Age	Rings
275	260
212	200
180	180
60	75
280	300

J

Age	Rings
280	300
425	422
180	180
125	140
280	300

Spiral 81

1 (5.2B)

Sales tax on four purchases came to the following amounts:

1.65 1.815 1.633 1.75

Which comparison is true?

A 1.65 > 1.633

B 1.75 < 1.65

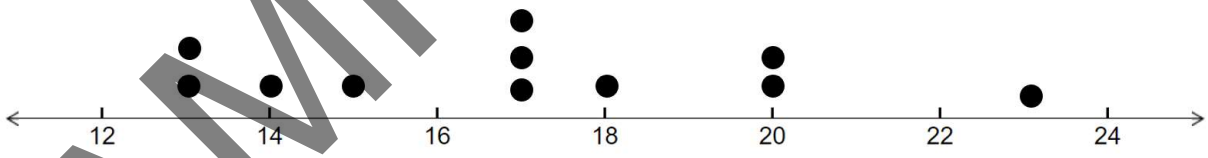
C 1.633 > 1.75

D 1.815 < 1.75

2 (5.9C)

The dot plot shows the ages of swimmers on the Stingrays Swim Team.

What is the difference in ages between the oldest swimmer and youngest swimmer?



F 9

G 10

H 12

J 8

3 (5.3C)

Bethany's school uses the gym for graduation. The school plans for an audience of 458 people plus 126 chairs for graduates and faculty. How many rows of 24 chairs each will be needed to seat everyone?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 82

1 (5.3E)

Each picture frame requires 1.2 meters of trim. How much trim is required to build 12 picture frames?

F 1.44 meters

G 0.144 meters

H 144 meters

J 14.4 meters

2 (5.2A)

Carroll's bank account shows a balance of $1,402.69. How is this amount written in expanded notation?

A (1 x 1000) + (4 x 100) + (2 x 1) + (6 x 0.01) + (9 x 0.001)

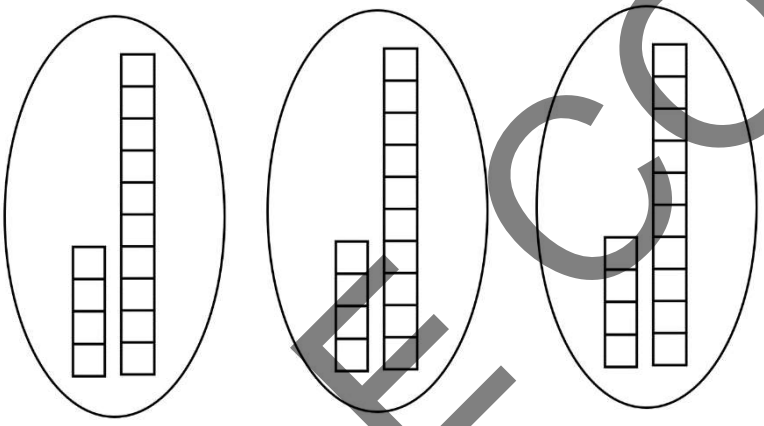
B (1 x 1000) + (4 x 100) + (2 x 1) + (6 x 0.1) + (9 x 0.01)

C (1 x 100) + (4 x 10) + (2 x 1) + (6 x 0.1) + (9 x 0.01)

D (1 x 1000) + (4 x 10) + (2 x 1) + (6 x 0.1) + (9 x 0.01)

3 (5.3D)

If the model above represents one whole, which situation is represented by the model below?



F Mrs. Johnson bought three jars of pickles, costing $1.40 each.

G Mrs. Johnson baked three recipes of cookies that each used 1.5 cups of flour.

H Mrs. Johnson saved $140 a month for three months.

J Mrs. Johnson bought three boxes of gift cards with 14 gift cards in each package.

Spiral 83

1 (5.3G)

The weight of potting soil in a large bag is 24.4 kilograms. The soil in the bag is divided equally into 4 smaller bags. What is the weight in kilograms of the soil in each small bag?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.2C)

Jaxon correctly rounded 3.187 to the nearest hundredth. What is Jaxson's answer?

F 3.19

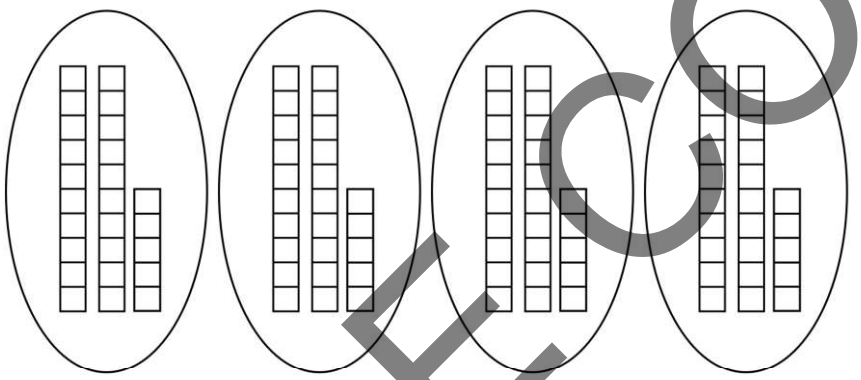
G 3.2

H 3.18

J 3.29

3 (5.3F)

If the model above represents one whole, which equation is represented by the model below?



A 4 ÷ 10 = 2.5

B 4 x 2.4 = 9.6

C 2.5 ÷ 4 = 10

D 10 ÷ 4 = 2.5

Spiral 84

1 (5.3K)

Amber filled a jar with jelly beans as a gift for Emily. She carefully layered the different colors to make a design. She filled $\frac{3}{8}$ the jar with bubblegum flavored jelly beans, which are Emily's favorite. She filled $\frac{1}{4}$ of the jar with cherry flavored jelly beans, and the remainder of the jar with cotton candy flavored jelly beans. What fraction of the jar did Amber fill with cotton candy flavored jelly beans?

F $\frac{3}{8}$

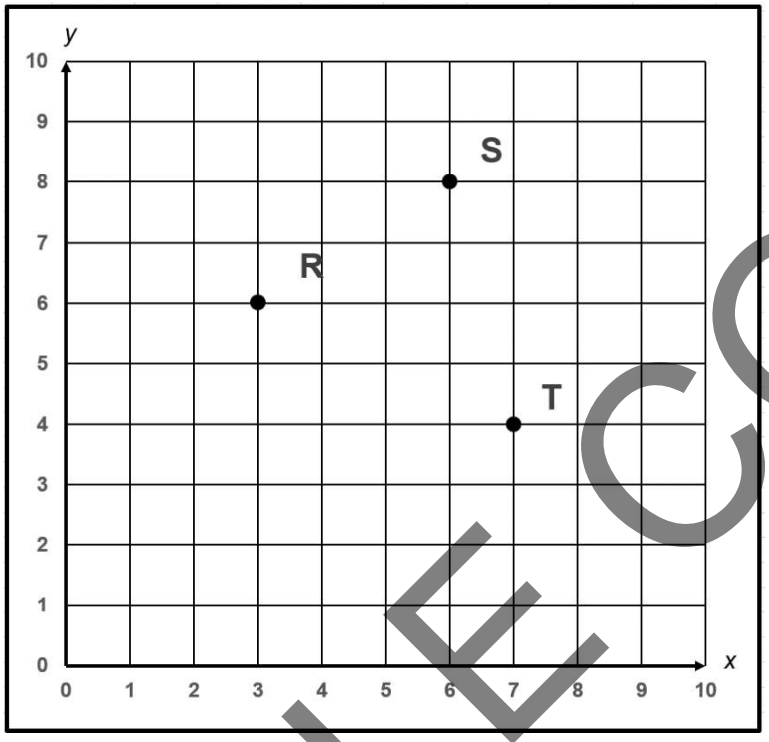
G $\frac{1}{2}$

H $\frac{1}{6}$

J $\frac{1}{3}$

2 (5.8C)

The graph shows three of the four vertices of parallelogram *RSTU*.



At which point on the coordinate grid could point *U* be located?

A (2, 4)

B (3, 2)

C (4, 3)

D (4, 2)

3 (5.3H)

The shaded part of the model represents a fraction. Another fraction, indicated by the boxes with the "x", was subtracted from the first fraction.

What is the difference between the two fractions?

F $\frac{5}{12}$

G $\frac{7}{16}$

H $\frac{5}{16}$

J $\frac{3}{4}$

Spiral 85

1 (5.3L)

Jason has half a cake left from his birthday. If he divides the remaining cake equally between 4 friends and himself, what fraction of the original cake does each person get?

A $\frac{2}{5}$

B $\frac{1}{10}$

C $\frac{1}{5}$

D $\frac{5}{2}$

2 (5.2B)

The table shows the lengths in meters for beams that are part of a satellite launch tower.

Beam	Length (meters)
Beam 1	23.36 m
Beam 2	23.602 m
Beam 3	23.63 m
Beam 4	23.623 m

Which list shows the beams in order from shortest to longest?

F Beam 1, Beam 2, Beam 4, Beam 3

G Beam 3, Beam 4, Beam 1, Beam 2

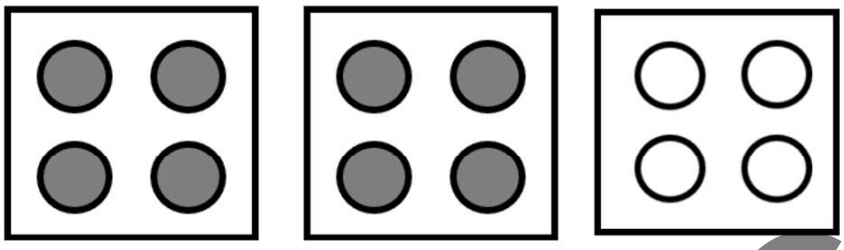
H Beam 1, Beam 4, Beam 2, Beam 3

J Beam 2, Beam 4, Beam 1, Beam 3

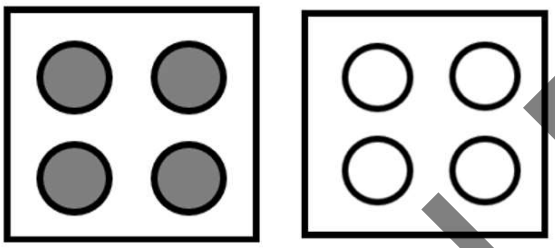
3 (5.3I)

Which model represents $\frac{2}{3}$ of 12?

A

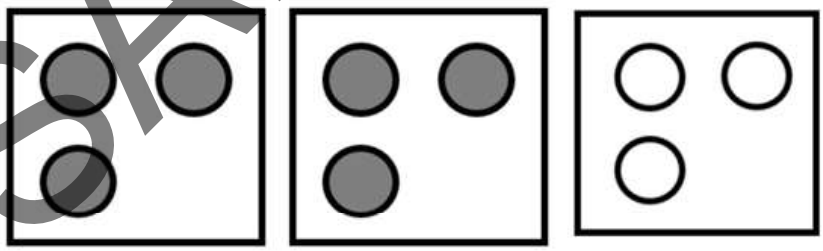


B



C

D



Spiral 86

1 (5.4B)

The Smiths have $5,000 in savings to spend on a cruise.

- 2 adults
- $1,300 per person
- $255 for trip insurance

The amount of money remaining (r) after making reservations and paying insurance can be determined using the equation

$$5000 - (2 \times 1300) - 255 = r$$

After making reservations and paying trip insurance, how much money do the Smiths have left for side trips and extras?

F $3,065

G $1,875

H $2,145

J $2,275

2 (5.3E)

The area of a rectangle equals the length times the width. What is the area of a rectangle with a length of 12.2 cm and a width of 9.5 cm?

A 105.9 square centimeters

B 95.9 square centimeters

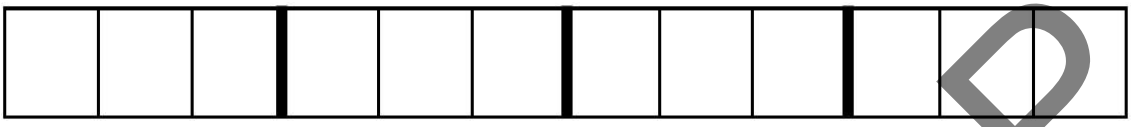
C 115.9 square centimeters

D 112.9 square centimeters

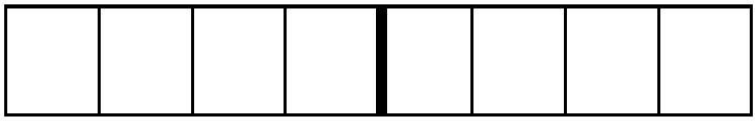
3 (5.3J)

Which model represents $3 \div \frac{1}{4}$?

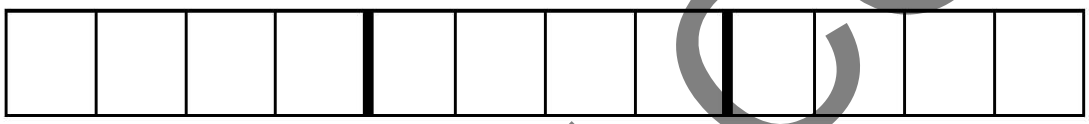
F



G



H



J

Spiral 87

1 (5.4C)

Which table represents the equation $y = x + 0.2$.

A

x	0	2	5	9
y	0.2	0.4	0.65	1.8

B

x	0	0.2	0.5	0.9
y	0	0.4	0.7	1.8

C

x	10	20	25	40
y	2	4	5	8

D

x	0	0.2	0.5	0.9
y	0.2	0.4	0.7	1.1

2 (5.9C)

The stem-and-leaf plot shows the weights of eight students.

Student Weight

Stem	Leaf
8	4 5
9	1 3 6
10	3 8 9

KEY
5|2 = 52

What fraction of the students weigh more than 100 pounds?

F $\frac{1}{3}$

G $\frac{3}{5}$

H $\frac{5}{3}$

J $\frac{3}{8}$

3 (5.4A)

Addison told his friends that both the month and day in his birthday are prime numbers. Which date could be Addison's birthday?

A 9/17

B 3/19

C 5/21

D 7/15

Spiral 88

1 (5.4F)

- Bethany counted two,12-packs of soda in her refrigerator, before shopping.
- Bethany bought three, 24-packs of soda.
- Bethany gave 9 sodas to Elizabeth.

The number of sodas Bethany has remaining is represented by the expression

$$[(2\times12)+(3\times24)]-9$$

How many sodas remained?

F 45 sodas

G 92 sodas

H 74 sodas

J 87 sodas

2 (5.3G)

Marcus saved $28.60 over 4 weeks. He saved the same amount of money each week. How much money did Marcus save each week?

A $7.15

B $7.25

C $7.21

D $6.85

3 (5.4D)

The table represents a relationship between *x* and *y*.

x	*y*
1	11
3	13
5	15
7	17
9	19

The relationship between the *x*-values and the *y*-values creates a pattern that is —

F additive, because each *x*-value increases by 2.

G additive, because each *y*-value is determined by adding 10 to the corresponding x-value.

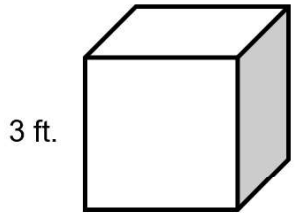
H multiplicative, because each *x*-value is odd.

J multiplicative, because each *y*-value is determined by multiplying the corresponding x-value by 2.

Spiral 89

1 (5.4H)

For One Act Play the stage crew built a cube measuring three feet on each edge. What is the area of the base of the cube?



A 27 square feet

B 6 square feet

C 12 square feet

D 9 square feet

2 (5.4E)

Lilliana added brackets and parentheses in different places to a problem.

$$[4 \times (5 + 2)] - (4 + 3)$$
$$[(4 \times 5) + 2] - 4 + 3$$

How do the parentheses and brackets affect the value of each expression?

F The value of the first expression is 28, while the value of the second expression is 21.

G The value of the first expression is 21, while the value of the second expression is 28.

H Both expressions have a value of 21.

J Both expressions have a value of 28.

3 (5.3K)

A scientist fed two Guinea Pigs different diets and tracked their mass each week for five weeks. The table shows the results of his measurements.

Week	Pig A	Pig B
One	680.389 g	687.99 g
Two	699.45 g	688.85 g
Three	700.002 g	689.01 g
Four	701 g	689.6 g
Five	702.33 g	691.25

How much more did the mass of Pig A change over the five weeks than the mass of Pig B?

A 21.831 g

B 18.681 g

C 3.26 g

D 20.721 g

Spiral 90

1 (5.5A)

Rainey created a chart showing the characteristics of several shapes.

Shape Chart

Groups → / Shape ↓	Polygon	Quadrilateral	All Sides Congruent
circle			
rectangle	✓	✓	
rhombus	✓	✓	✓
square	✓	✓	✓

Which boxes should Rainey check for the circle?

F all three

G only Polygon

H only Polygon and Quadrilateral

J none

2 (5.3L)

Coffee comes in a 2-pound bag. Each pot of coffee uses $\frac{1}{12}$ of a pound.

How many pots of coffee can be made with a 2-pound bag?

A 36

B 6

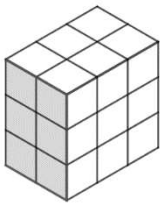
C 24

D 48

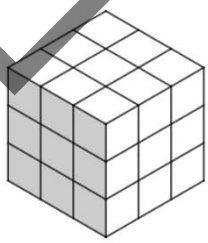
3 (5.6A)

A student builds some rectangular prisms using cubes that each have a volume of 1 cubic inch. Which rectangular prism has a volume of 18 cubic inches?

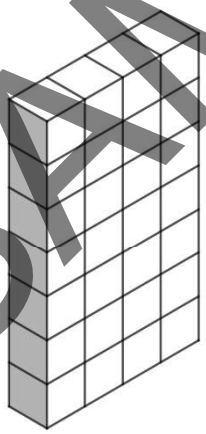
F



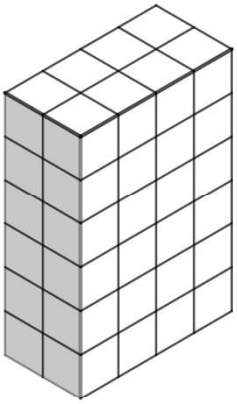
G



H



J



Spiral 91

1 (5.2B)

Which list shows the numbers in order from least to greatest?

A 3.002 < 3.020 < 3.20 < 32.0

B 4.105 < 4.501 < 4.15 < 5.51

C 2.6 < 6.21 < 2.16 < 6.2

D 0.32 < 0.302 < 0.203 < 0.23

2 (5.4B)

A concert venue has the following seating:

- 21 rows with 24 seats on each row
- 15 rows with 17 seats on each row
- 214 seats in the balcony

If 855 tickets are sold for a concert, the number of remaining tickets (r) can be determined using the equation

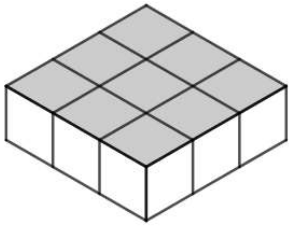
$$(21 \times 24) + (15 \times 17) + 214 - 855 = r$$

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

3 (5.6B)

The base of a rectangular prism is shown. Each small cube has an edge length of 1 centimeter. The finished prism has a total of 9 layers.



What is the volume of the prism in cubic centimeters?

A 27 cubic centimeters

B 121 cubic centimeters

C 81 cubic centimeters

D 91 cubic centimeters

Spiral 92

1 (5.3E)

The circumference of a circle is approximately 3.14 times the diameter. If the diameter of a circle is 12.5 cm, what is the best approximation for the circumference of the circle?

F 41.2 cm

G 38.75 cm

H 36.05 cm

J 39.25 cm

2(5.7A)

Robert researched different species of hummingbirds.

Hummingbirds

Species	Length	Mass
Ruby-throated	9.5 cm	3.6 g
Calliope	825 mm	2.8 g

What is the difference in length between the two species in millimeters?

A 1.25 mm

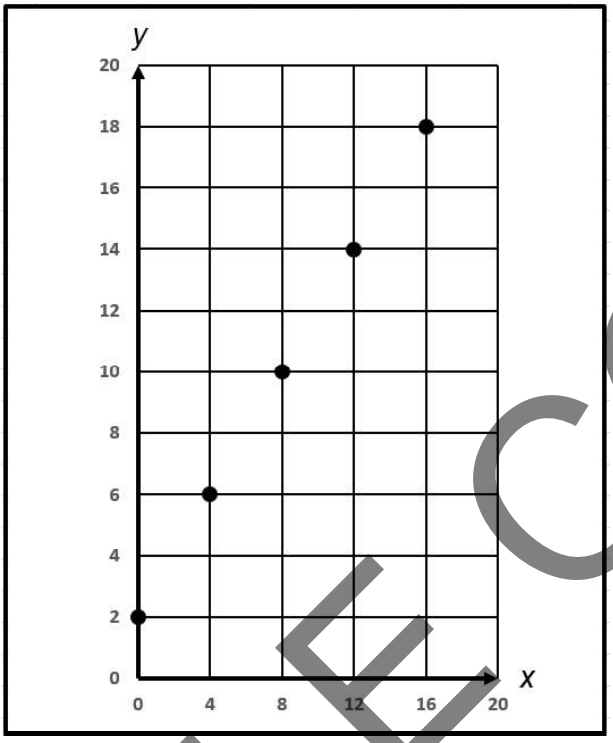
B 25 mm

C 125 mm

D 0.25 mm

3 (5.4C)

The graph shown represents the rule $y = x + 2$.



Which table contains only values that represent the rule?

F

x	*y*
0	2
1	3
2	4
7	9

G

x	*y*
0	3
1	4
2	5
7	10

H

x	*y*
0	0
1	2
2	4
7	14

J

x	*y*
0	1
1	2
2	3
7	8

Spiral 93

1 (5.3G)

What is the quotient when 0.6 is divided by 15?

A 0.4

B 0.04

C 25

D 0.25

2 (5.4F)

A class participates in a canned foods drive.

- 6 students each brought 5 cans of green beans
- 15 students each brought 6 cans of peas
- 1 student brought a 12-can case of tomatoes

The number of cans the class brought is represented by the expression

$$(6 \times 5) + (15 \times 6) + 12$$

How many cans were collected?

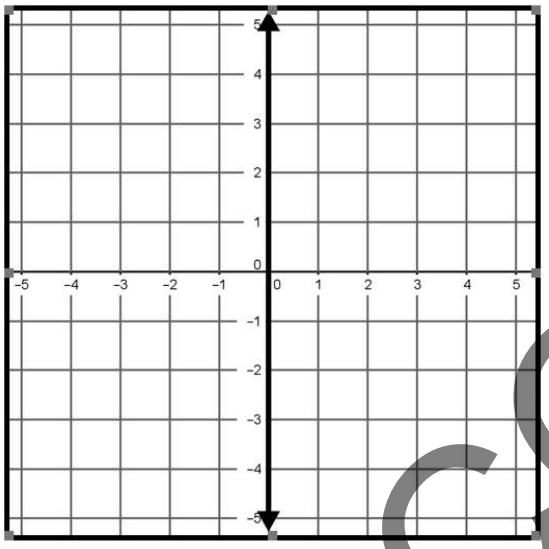
F 132 cans

G 732 cans

H 521 cans

J 92 cans

3 (5.8A)



Which is NOT true about the line shown on the coordinate plane?

A The line is called the *y*-axis.

B Every point on the line has an *y*-coordinate of 0.

C The line passes through the origin.

D Every point on the line has an *x*-coordinate of 0?

Spiral 94

1 (5.3K)

The table shows the amount of fabric needed to make a quilt.

Fabric	Yards
red check	$3\frac{2}{3}$
yellow plaid	4
blue solid	$\frac{3}{4}$
green solid	$\frac{3}{4}$

What is the total amount of fabric needed to make the quilt?

F $10\frac{1}{6}$ yards

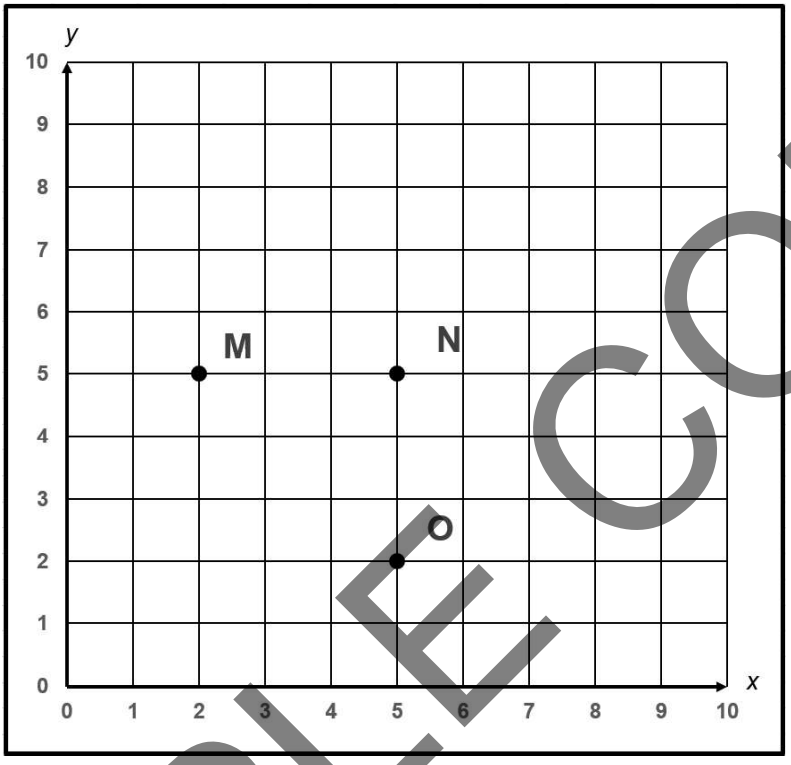
G $9\frac{1}{6}$ yards

H $9\frac{2}{3}$ yards

J $10\frac{5}{6}$ .yards

2 (5.8C)

The graph shows three of the four vertices of square *LMNO*.



At which point on the coordinate grid could point *L* be located?

A (2, 1)

B (2, 2)

C (1, 2)

D (2, 3)

3 (5.8B)

To graph a point on the coordinate plane, a student starts at the origin and moves six spaces to the right.

What are the coordinates of the new point?

F (6, 1)

G (6, 0)

H (0, 6)

J (1, 6)

Spiral 95

1 (5.3L)

A developer buys 250 acres of land and divides it into $\frac{1}{2}$-acre lots. How many $\frac{1}{2}$-acre lots can he create?

A $12\frac{1}{2}$

B 125

C 500

D 75

2 (5.4H)

A rectangle has sides that are 15.8 cm and 9.2 cm. What is the area of the rectangle?

F 145.36 square centimeters

G 1,453.6 square centimeters

H 50 square centimeters

J 500 square centimeters

3 (5.9A)

The stem-and-leaf plot represents the times for 10 swimmers in the 50-meter free style.

Swim	**Time**
Stem	Leaf
28	3 5 9
29	1 3 4 8
30	2 4 7

KEY
28|**2**= 28.2

Which table best matches the data shown in the graph?

A

Swimmer	1	2	3	4	5	6	7	8	9	10
Time (sec.)	29.1	30.2	30.7	28.3	29.3	29.8	28.5	30.7	28.9	29.4

B

Swimmer	1	2	3	4	5	6	7	8	9	10
Time (sec.)	30.2	29.1	30.4	29.4	29.4	29.8	28.5	30.7	28.9	29.4

C

Swimmer	1	2	3	4	5	6	7	8	9	10
Time (sec.)	29.1	30.2	30.4	28.3	29.3	29.8	28.5	30.7	28.9	29.4

D

Swimmer	1	2	3	4	5	6	7	8	9	10
Time (sec.)	29.1	30.2	30.4	28.3	29.4	29.8	28.5	30.7	28.9	29.4

Spiral 96

1 (5.4B)

The cheer squad has $4,000 to spend on uniforms and equipment.

- 12 cheerleaders
- $130 per uniform
- $89 per jacket
- $75 per pair of shoes

The amount of money remaining (r) after purchasing a uniform, jacket, and shoes for each cheerleader can be determined using the equation

$$4000 - 12 \times (130 + 89 + 75) = r$$

How much do the cheerleaders have left after purchasing uniforms, jackets, and shoes?

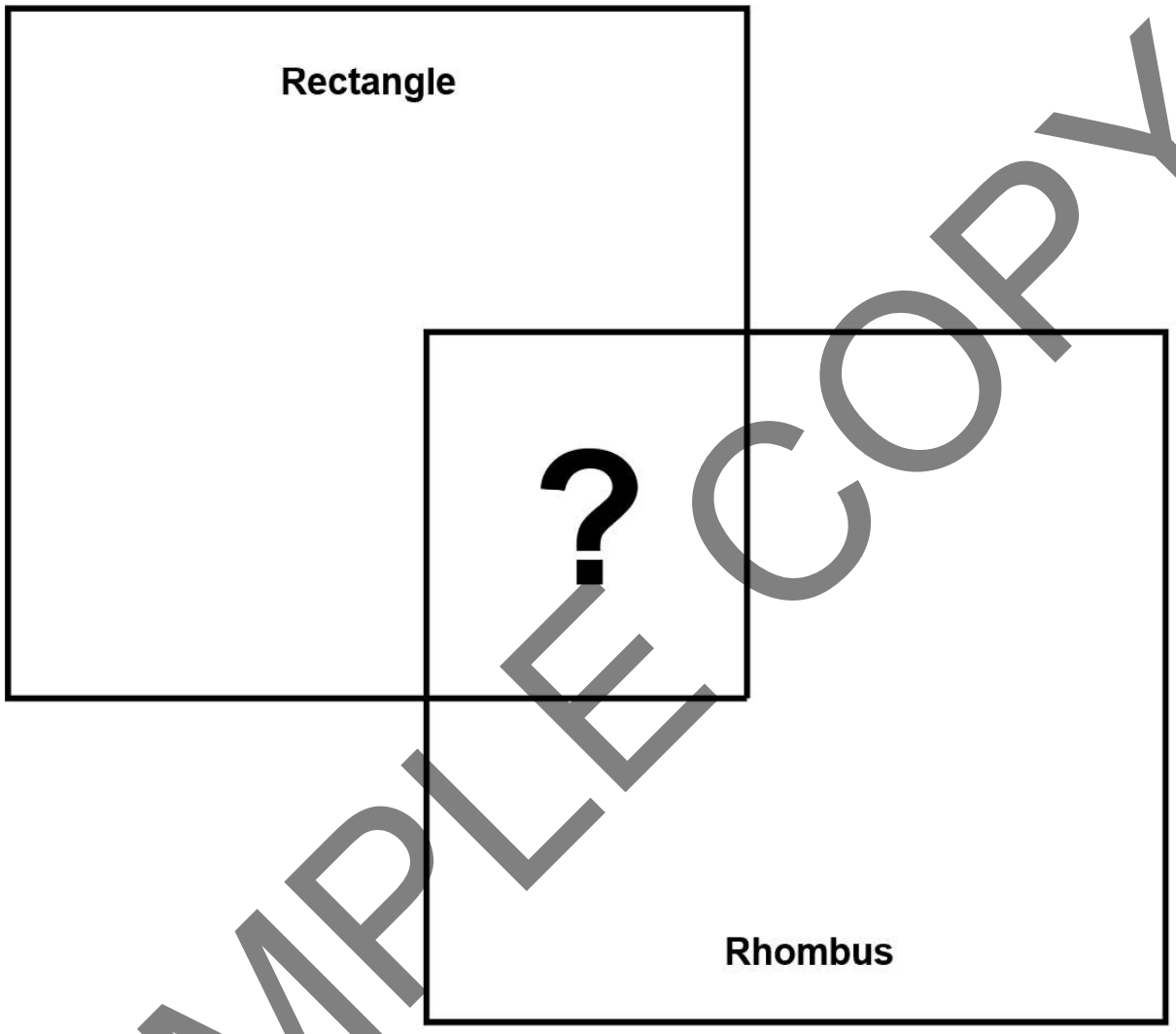
F $384

G $472

H $512

J $484

2 (5.5A)



Which figure can be placed in the overlapping area?

A square

B trapezoid

C parallelogram

D pentagon

3 (5.9B)

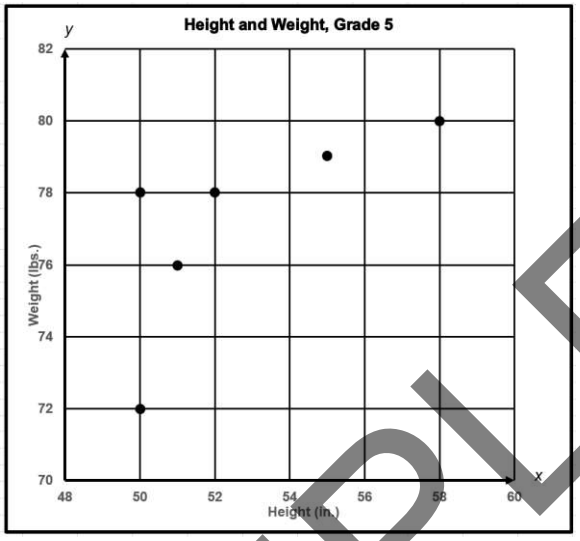
The table shows the height in inches and weight in pounds of six fifth grade students.

Fifth Grade Height and Weight

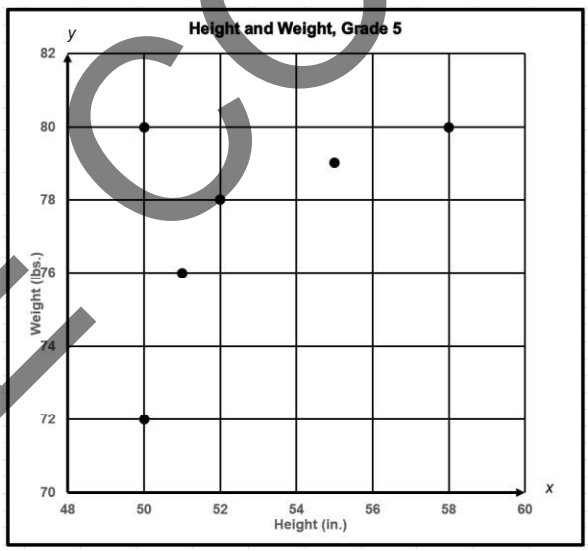
Name	Height (in.)	Weight (lb.)
Raoul	58	80
Baker	52	78
Ed	50	72
Kyle	50	78
Al	51	76
Jackson	55	79

Which scatterplot represents the data in the table?

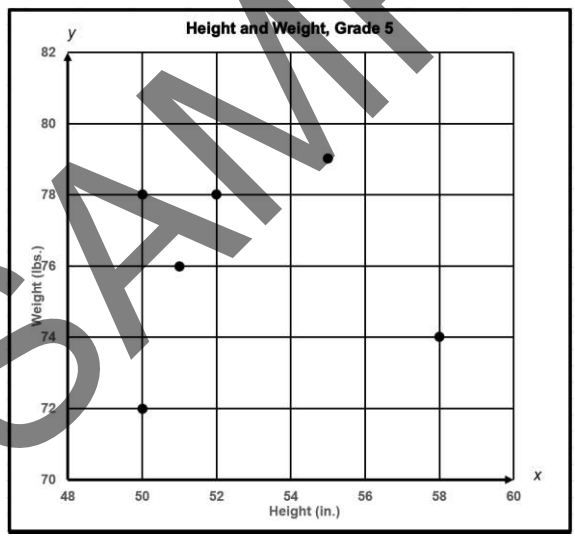
F



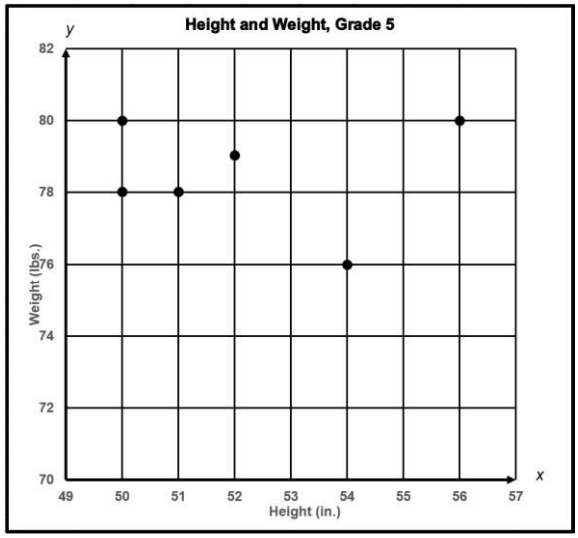
G



H



J



Spiral 97

1 (5.4C)

Which table represents the equation $y = 3x$.

A

x	0	2	5	9
y	3	5	8	12

B

x	0	2	5	9
y	0	6	15	27

C

x	0	2	5	9
y	0	6	21	33

D

x	0	2	5	9
y	3	6	15	27

2 (5.9C)

The frequency table represents numbers rolled with a six-sided dice.

Dice Roll	Frequency
1	////
2	//
3	///
4	~~////~~
5	~~////~~
6	/

What fraction of the rolls resulted in a number less than 3?

F $\frac{3}{10}$

G $\frac{9}{20}$

H $\frac{6}{19}$

J $\frac{9}{19}$

3 (5.10A)

- Social Security taxes
- Medicare taxes
- Paid by employer
- Noted on paystub

These characteristics best describe which tax?

A income tax

B payroll tax

C sales tax

D property tax

Spiral 98

1 (5.4F)

Mills hiked each day of his five-day vacation.

- Day 1, 12 miles
- Day 2, 9 miles
- Day 3, 9 miles
- Day 4, 11 miles
- Day 5, 11 miles

His total mileage is represented by the expression

$$12+(2\times 9)+(2\times 11)$$

What is his total mileage?

F 28 miles

G 52 miles

H 136 miles

J 38 miles

2 (5.3A)

A trucker logged 14,900 miles in 32 days. Which is the best estimate of how far he travelled each day?

A 600 miles

B 800 miles

C 400 miles

D 500 miles

3 (5.10B)

Barb's paycheck shows an income of $1,800 for the pay period. Barb's employer took out $400 for insurance and $250 for taxes. The final amount of her paycheck was $1,150.

Which of these statements is true?

F Barb's net income was $1,800 and her gross income was $1,150.

G Barb's gross income was $1,800 and her net income was $1,150.

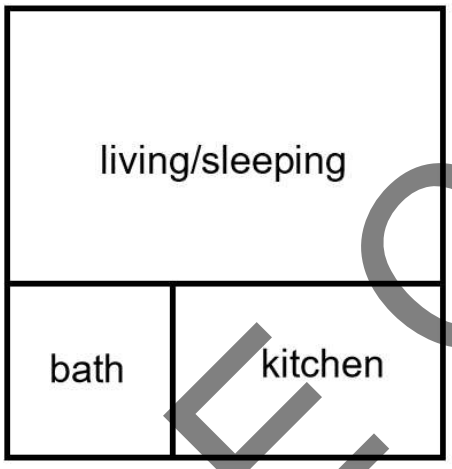
H Barb's gross income was $1,800 and her net income was $650.

J Barb's net income was $1,800 and her gross income was $650.

Spiral 99

1 (5.4H)

Mr. Thompson builds a tiny house at the lake. The total floor plan is a 20 by 20-foot square. That area is divided into three rooms. The house has a rectangular living/sleeping area that is 12 by 20 feet, and a kitchen that is 8 by 12 feet. The remaining area is the bathroom.



What is the area of the floorplan for the bathroom?

A 96 square feet

B 64 square feet

C 400 square feet

D 160 square feet

2 (5.3B)

What is the product of 576 and 24?

F 24

G 12,654

H 13,824

J 10,424

3 (5.10E)

Samantha wants to stay within her budget but needs to buy a car to get to and from work. Which of the following will NOT help Samantha stay within her budget?

A working extra hours

B reducing extra features on her phone bill

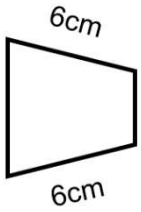
C cutting out unnecessary travel

D eating out to save on groceries

Spiral 100

1 (5.5A)

Brad uses a graphic organizer to classify this quadrilateral based on three attribute groups.



Which graphic organizer shows the correct attributes underlined for the shape above?

F

Parallel Sides	No Sides Parallel	One Pair of Parallel Sides	Two Pair of Parallel Sides
Right Angles	No Right Angles	Only Two Right Angles	Four Right Angles
Congruent Sides	No Congruent Sides	Only One Pair of Congruent Sides	All Four Sides Congruent

G

Parallel Sides	No Sides Parallel	One Pair of Parallel Sides	Two Pair of Parallel Sides
Right Angles	No Right Angles	Only Two Right Angles	Four Right Angles
Congruent Sides	No Congruent Sides	Only One Pair of Congruent Sides	All Four Sides Congruent

H

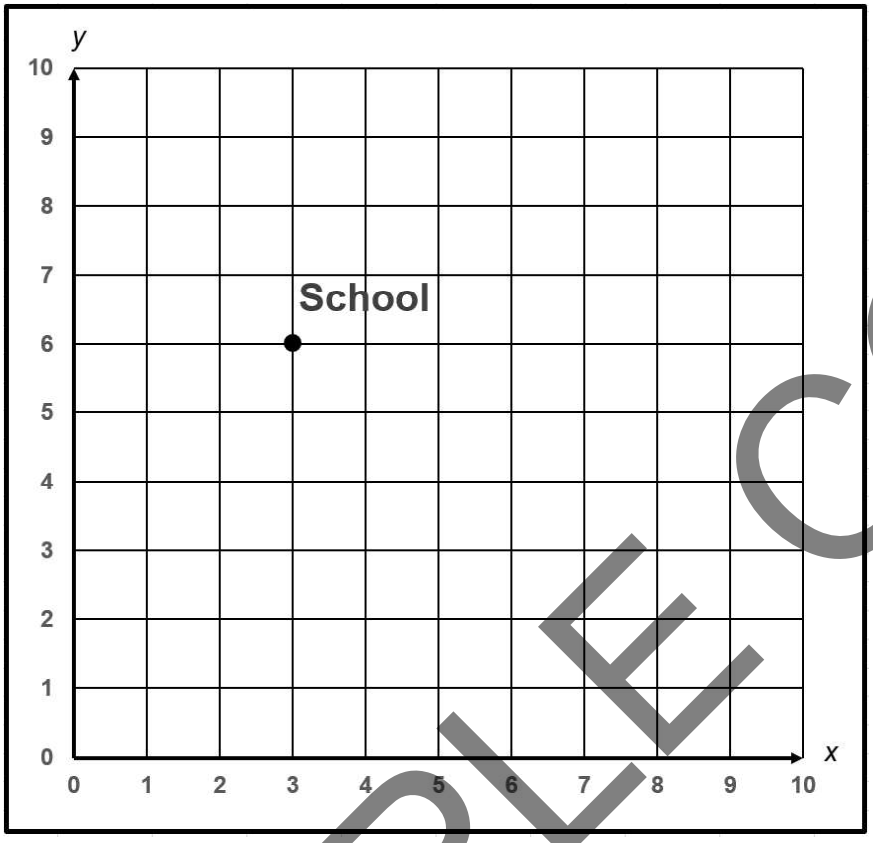
Parallel Sides	No Sides Parallel	One Pair of Parallel Sides	Two Pair of Parallel Sides
Right Angles	No Right Angles	Only Two Right Angles	Four Right Angles
Congruent Sides	No Congruent Sides	Only One Pair of Congruent Sides	All Four Sides Congruent

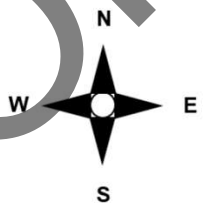
J

Parallel Sides	No Sides Parallel	One Pair of Parallel Sides	Two Pair of Parallel Sides
Right Angles	No Right Angles	Only Two Right Angles	Four Right Angles
Congruent Sides	No Congruent Sides	Only One Pair of Congruent Sides	All Four Sides Congruent

2 (5.8C)

The location of Tabitha's school is shown on the coordinate grid.





After school, Tabitha walked two blocks west and three blocks south to check in with her dad at the Fire Station. From the Fire Station she walked five blocks east and one block south to her home.

What are the coordinates of Tabitha's home?

A (2, 6)

B (3, 2)

C (4, 3)

D (6, 2)

3 (5.10F)

The chart shows Bryant's income and expenses for the month.

August Budget

Expenses		Income	
Food	$38	Dog walking	$60
Movie tickets	$20	Pool cleaning	$35
Water park	$45	Lawn mowing	$80
		Chores	$20

Bryant plans to put half of the remainder in his savings account and to spend the other half on new school clothes. How much will Bryant have to spend on new school clothes?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 101

1 (5.2B)

A science experiment requires the amount of each liquid shown in the table in liters.

Liquid	Amount (L)
water	0.512 L
cooking oil	0.67 L
rubbing alcohol	0.3 L
vinegar	0.25 L

Which list shows the liquids in order from greatest amount to least?

A water, cooking oil, vinegar, rubbing alcohol

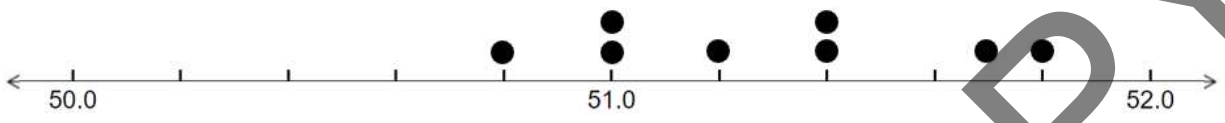
B cooking oil, water, rubbing alcohol, vinegar

C rubbing alcohol, vinegar, cooking oil, water

D water, vinegar, rubbing alcohol, cooking oil

2 (5.9A)

Hannah timed in seconds how long it took water to drain through a soil sample. The dot plot shows the results of eight trials with the same materials.



Which table best matches the data shown in the dot plot?

F

Trial	1	2	3	4	5	6	7	8
Time (sec.)	51.5	51.0	51.4	50.8	51.5	51.0	51.4	51.2

G

Trial	1	2	3	4	5	6	7	8
Time (sec.)	51.2	51.4	51.4	50.8	51.4	51.0	51.4	51.2

H

Trial	1	2	3	4	5	6	7	8
Time (sec.)	51.8	51.0	51.4	50.8	51.4	51.0	51.4	51.3

J

Trial	1	2	3	4	5	6	7	8
Time (sec.)	51.8	51.0	51.4	50.8	51.4	51.0	51.7	51.2

3 (5.9A)

The ages of the 10 teachers is represented by the stem-and-leaf plot.

Teacher Age

Stem	Leaf
2	2
3	2 4 5 7 7
4	1 4 6 8

KEY
5|2 = 52

Which table best matches the data shown in the stem-and-leaf plot?

A

Teacher	1	2	3	4	5	6	7	8	9	10
Age	37	41	48	22	32	45	34	35	37	46

B

Teacher	1	2	3	4	5	6	7	8	9	10
Age	41	48	37	22	32	44	34	35	41	46

C

Teacher	1	2	3	4	5	6	7	8	9	10
Age	37	41	48	22	32	44	34	35	37	46

D

Teacher	1	2	3	4	5	6	7	8	9	10
Age	44	48	48	22	34	41	34	35	37	46

Spiral 102

1 (5.3E)

What is the product of 3.3 and 4.7?

F 17.21

G 14.41

H 15.31

J 15.51

2 (5.3B)

What is nine more than the product of 467 and 55?

A 25,685

B 24,855

C 26,244

D 25,694

3 (5.3G)

A math problem is shown

$$25\overline{)21.25}$$

What is the quotient?

F 8.5

G 0.81

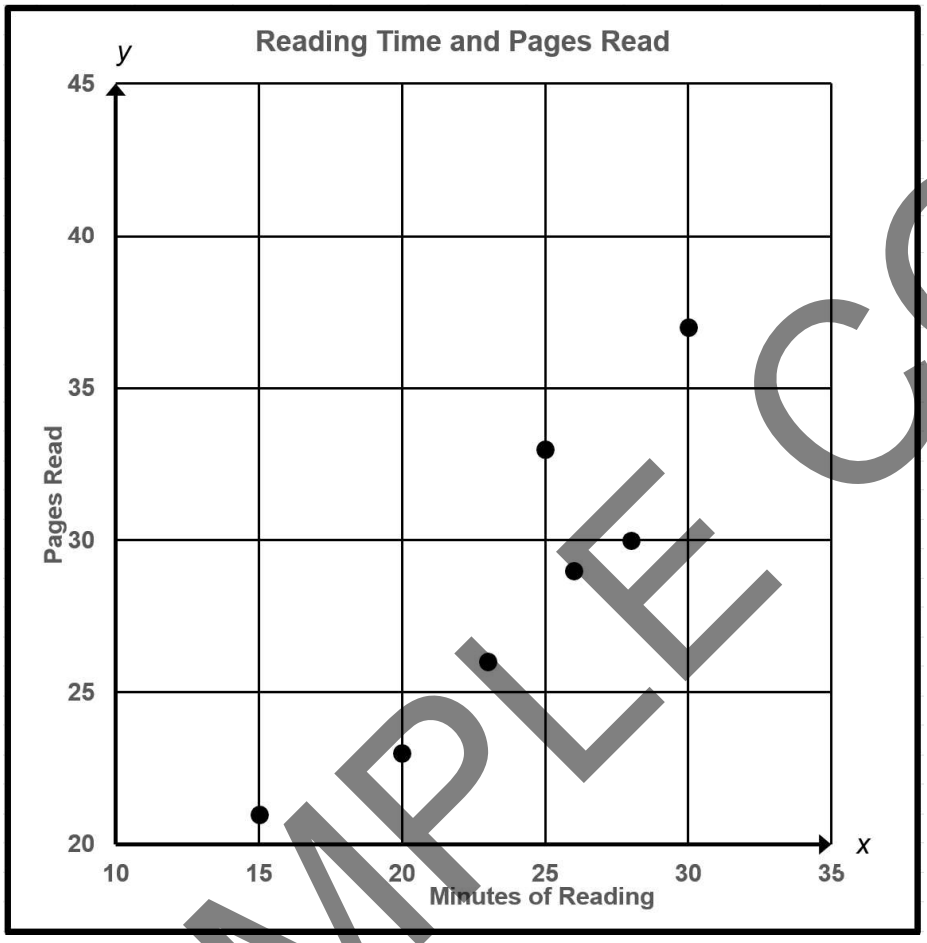
H 8.1

J 0.85

Spiral 103

1 (5.9B)

Benson creates a table to match the data in the scatter plot.



Reading Minutes	Pages Read
15	21
20	23
23	26
25	33
	37
26	29
28	30

Which number best completes Benson's table?

A 28

B 26

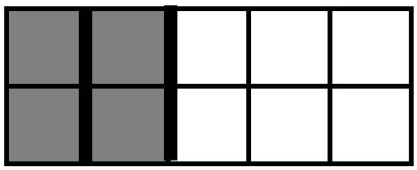
C 27

D 30

2 (5.3I)

Which model represents $\frac{2}{5} \times 10 = 4$?

F



G

H

J

3 (5.3K)

Kara made 2 recipes of brownies for the bake sale. Each recipe used $1\frac{3}{4}$ cups of flour. Kara also made 1 recipe of sugar cookies, which used $1\frac{2}{3}$ cups of flour. How much more flour did Kara use for the brownies than she used for the sugar cookies?

A $1\frac{5}{6}$ cups

B $1\frac{2}{3}$ cups

C $1\frac{3}{4}$ cups

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

Spiral 104

1 (5.4F)

What is the value of the expression shown?

$$183.5 - (66.81 + 22.7)$$

F 139.39

G 94.99

H 140.39

J 93.99

2 (5.3K)

Jason is $50\frac{1}{2}$ inches tall. Ray is $2\frac{3}{4}$ inches shorter than Jason. How tall is Ray?

A $53\frac{1}{4}$

B $48\frac{3}{4}$

C $47\frac{3}{4}$

D $47\frac{1}{4}$

3 (5.3K)

Mrs. Blaise made punch for a bridal shower. She mixed $6\frac{2}{3}$ cups of lemonade, $8\frac{1}{2}$ cups of grapefruit juice, 12 cups of lemon-lime soda, and $5\frac{3}{4}$ cups of ginger ale. How much punch did Mrs. Blaise make?

F $31\frac{11}{12}$

G $32\frac{11}{12}$

H $20\frac{11}{12}$

J $32\frac{1}{12}$

.

Spiral 105

1 (5.4H)

The dimensions of a rectangular prism:

- Length – 25 mm
- Width – 32 mm
- Height – 17 mm

What is the volume of the rectangular prism?

A 27,200 cubic centimeters

B 13,600 cubic centimeters

C 6,800 cubic centimeters

D 12,800 cubic centimeters

2 (5.3K)

Kayla worked in her mom's bakery for 4.5 hours on Saturday, and $2\frac{1}{4}$ hours after school each day on Monday and Tuesday. How many hours did Kayla work on those three days?

F $6\frac{3}{4}$ hours

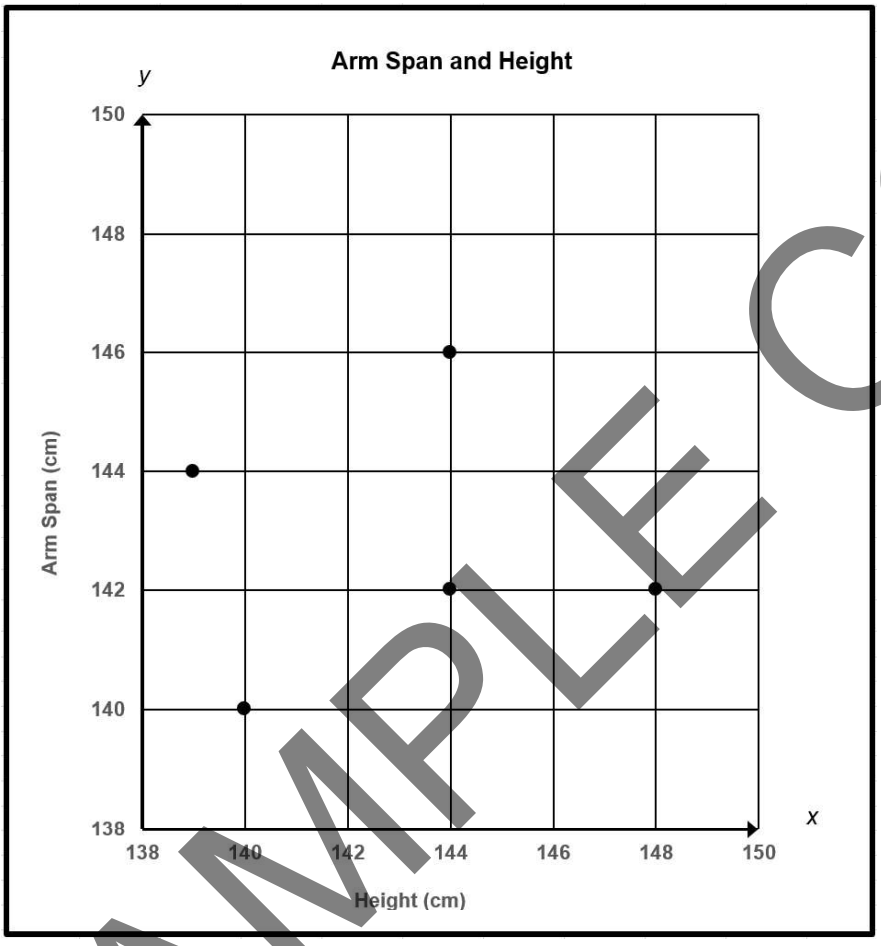
G 8 hours

H $8\frac{1}{4}$ hours

J 9 hours

3 (5.9B)

The scatterplot shows the relationship between height in centimeters and arm span in centimeters for six fifth graders. The table represents the data shown in the graph.



Height (cm)	Arm Span (cm)
148	142
144	146
	140
139	144
144	142

Which number best completes the table?

A 144

B 140

C 146

D 142

Spiral 106

1 (5.4H)

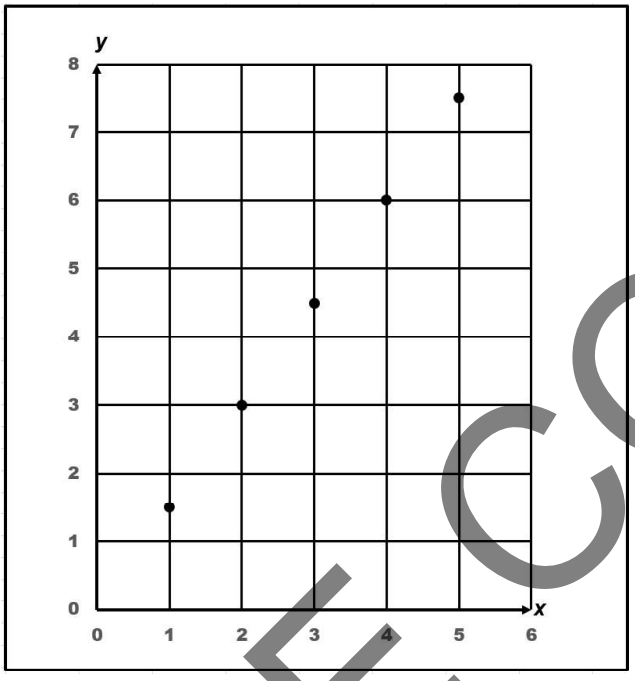
A square with sides 16 cm long is divided into four equal squares. What is the area of each of the smaller squares?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.4C)

The graph shown represents the rule $y = 1.5x$.



Which table contains only values that represent the rule?

A

x	y
0	0
1	2.5
2	3.5
3	4.5
6	7.5

B

x	y
0	0
1	1.5
2	3
3	4.5
6	6

C

x	y
0	0
1	1.5
2	3
3	4.5
6	9

D

x	y
0	0
1	1.5
2	4
3	5.5
6	9

3 (5.3K)

The table shows the heights of four of the world's tallest buildings.

Building	City	Height in Meters
Buij Khalifa	Dubai	828 m
One World Trade Center	New York City	541.3 m
Lotte World Tower	Seoul	554.5 m
Shanghai Tower	Shanghai	632 m

What is the height difference between the tallest building and the shortest?

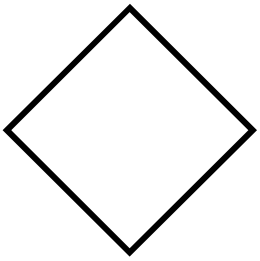
Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 107

1 (5.5A)

Amos uses a graphic organizer to classify this quadrilateral based on three attribute groups.



Parallel Sides	No Sides Parallel	One Pair of Parallel Sides	Two Pair of Parallel Sides
Right Angles	No Right Angles	Only Two Right Angles	Four Right Angles
Congruent Sides	No Congruent Sides	Only One Pair of Congruent Sides	All Four Sides Congruent

Which list shows the correct attributes for each category for the shape above?

A Two Pair of Parallel Sides, No Right Angles, All Four Sides Congruent

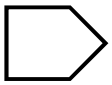
B No Sides Parallel, No Right Angles, No Congruent Sides

C One Pair of Parallel Sides, No Right Angles, All Four Sides Congruent

D Two Pair of Parallel Sides, Four Right Angles, All Four Sides Congruent

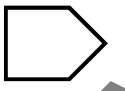
2 (5.5A)

Brazos created a graphic organizer, showing attributes for four shapes.

	Polygon	Quadrilateral	Right Angle(s)
	✔	✔	
	✔		✔
	✔		✔
	✔	✔	

For which shape is part of the information incorrect?

F 

G 

H 

J 

3 (5.4C)

Which table represents the equation $y = 3.4x$.

A

x	0	2.2	5.5	9.9
y	3.4	5.6	8.9	13.3

B

x	0	3.1	5.6	8.5
y	3.4	9.9	12.4	15.3

C

x	10	20	25	40
y	34	68	85	136

D

x	0	0.2	0.5	0.9
y	0	6.4	1.7	3.06

Spiral 108

1 (5.3K)

Harris County has the largest population in the state of Texas with 4,253,963 residents. Loving County has the smallest population with 78 residents. What is the difference between the population between these two counties?

F 4,253,985

G 4,253,815

H 4,253,885

J 4,253,915

2 (5.3K)

The table shows the areas of the five largest counties in Texas based on their area in square miles.

County	Area in Square Miles
Brewster	6,192.3
Pecos	4,764.8
Hudspeth	4,571.8
Presidio	3,855.9
Culberson	3,813.0

How much larger is Brewster County than Presidio County?

A 2,379.3 square miles

B 2,343.4 square miles

C 3,436.4 square miles

D 2,336.4 square miles

3 (5.3K)

Rachel kept a record of the amount of water she drank each day for a week.

Day	Water in Liters
Sunday	3.15 L
Monday	2.45 L
Tuesday	3 L
Wednesday	3.2 L
Thursday	2.5 L
Friday	3.74 L
Saturday	2.75 L

What is the difference in liters between the amount of water Rachel drank on Monday, Tuesday, and Wednesday combined, than the amount she drank on the other four days combined?

F 3.49 liters

G 3.59 liters

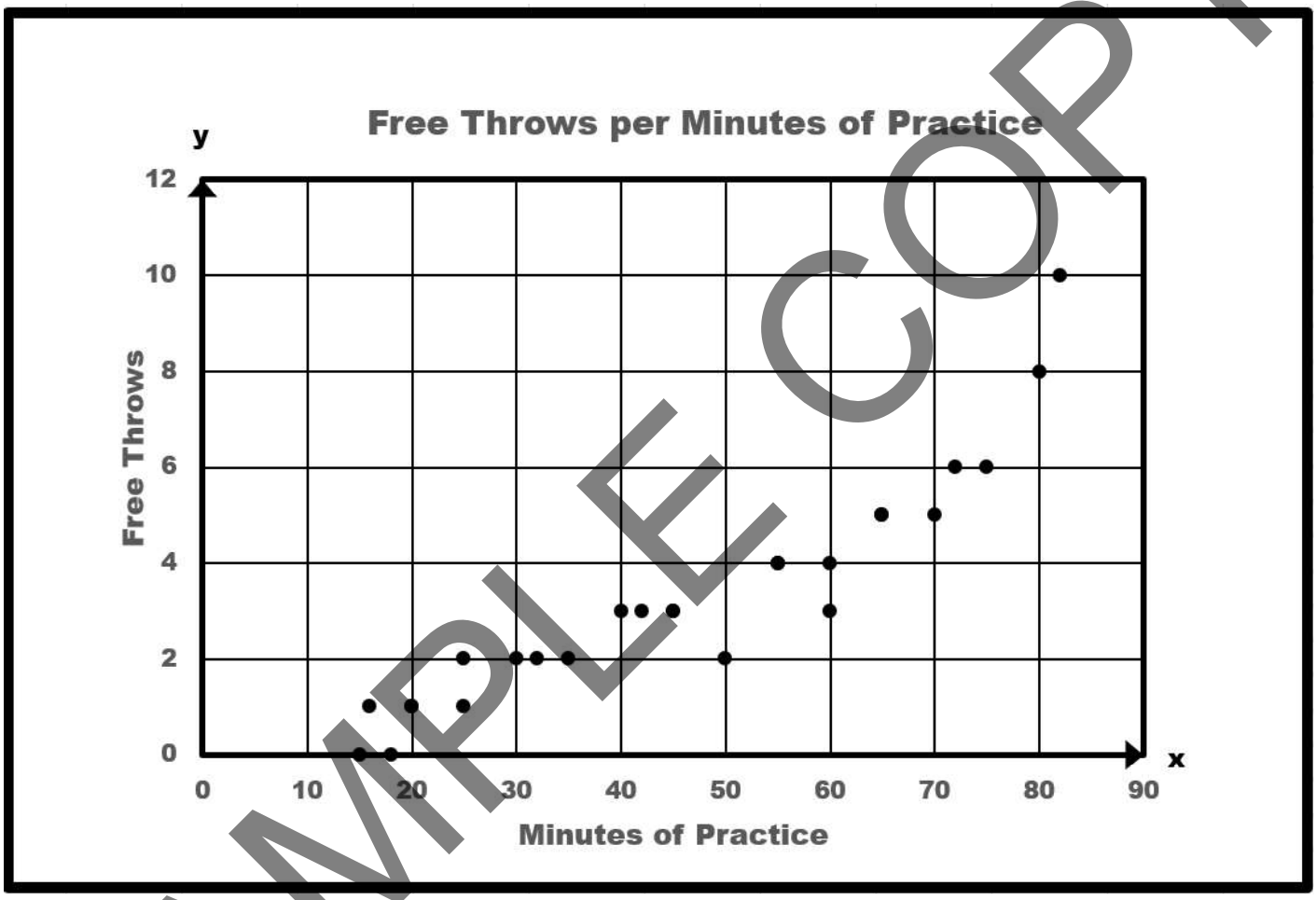
H 4.59 liters

J 4.8 liters

Spiral 109

1 (5.9C)

The scatter plot represents the number of successful free throws in relation to the minutes of practice.



How many more free throws did a player who practiced 80 minutes make than a player who practiced 20 minutes?

A 9

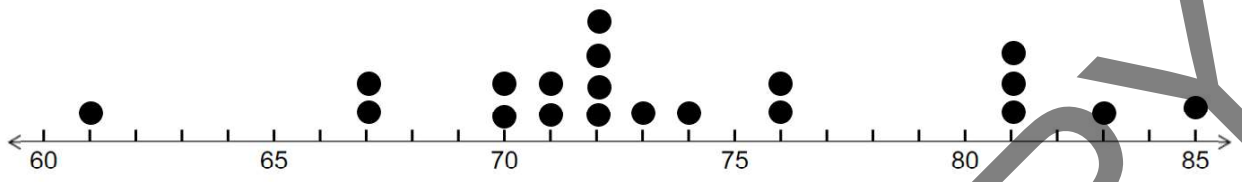
B 7

C 6

D 8

2 (5.9C)

The dot plot shows the vocabulary pretest scores for a math class.

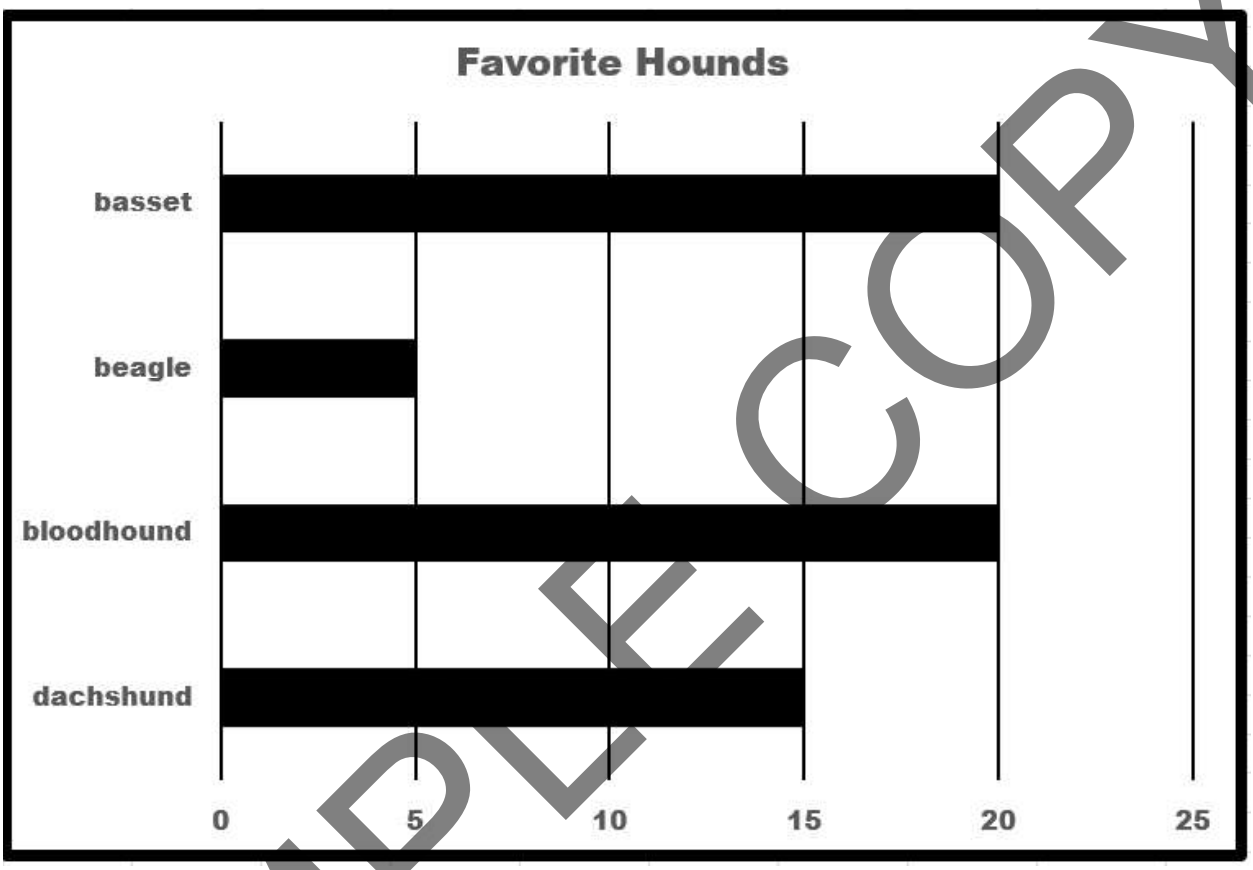


What fraction of the students scored greater than 65 and less than 70?

F $\frac{2}{19}$ **G** $\frac{1}{5}$ **H** $\frac{1}{10}$ **J** $\frac{1}{9}$

3 (5.9C)

Students chose their favorite hound from four breeds. The graph shows the results of the voting.



How many more students chose the basset hound or dachshund than voted for the bloodhound?

A 0

B 10

C 20

D 15

Spiral 110

1 (5.9C)

The stem-and-leaf plot shows the ages of ten teachers.

Teacher Age

Stem	Leaf
2	2
3	2 4 5 7 7
4	1 4 6 8

KEY
5|2 = 52

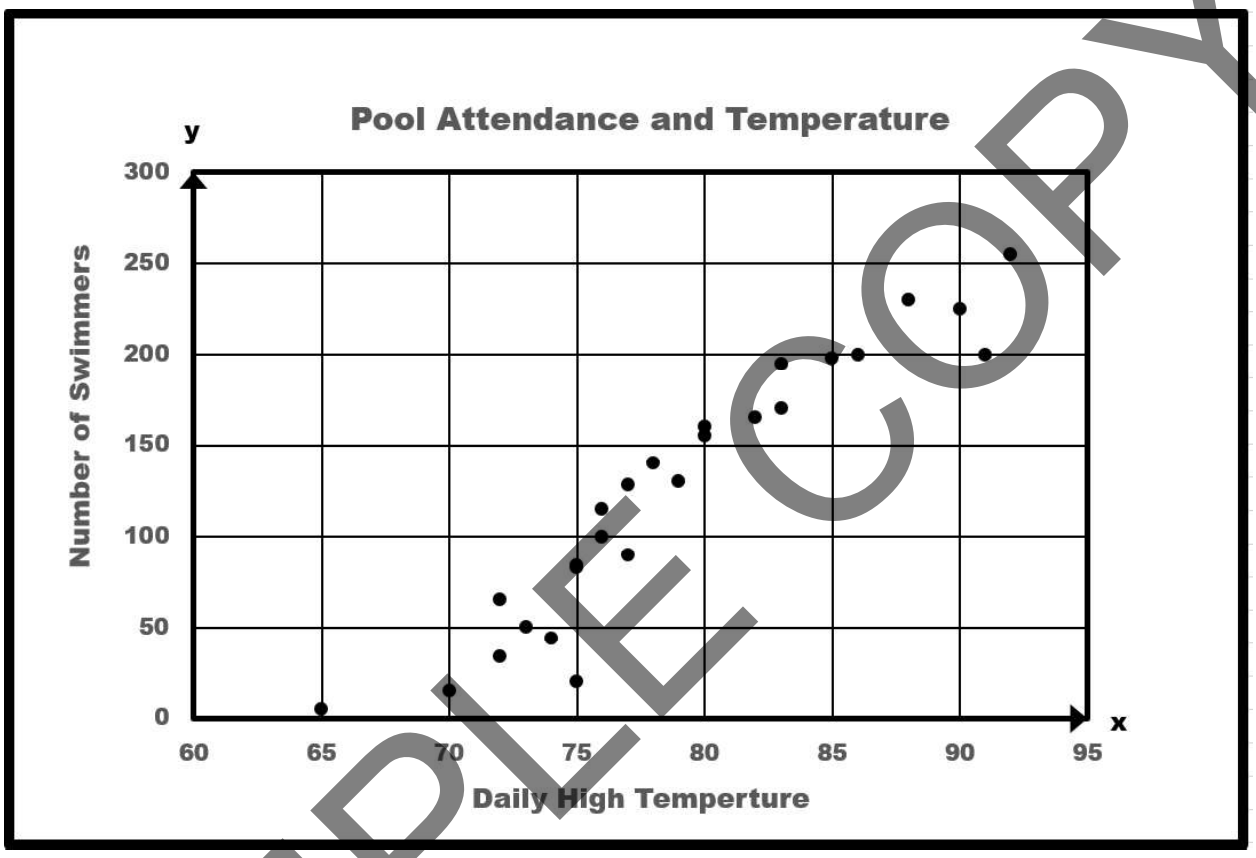
What is the difference in age between the oldest teacher and the youngest?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
②	②	②		②	②
③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

2 (5.9C)

The scatterplot shows the relationship between the number of swimmers at a local pool in relation to the daily high temperature.



About what is the difference between the highest daily attendance and the lowest?

A 200

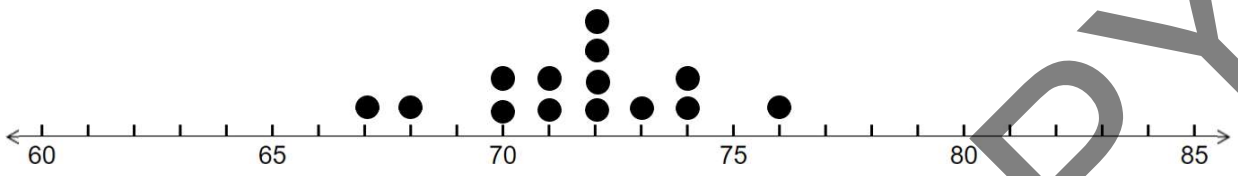
B 250

C 175

D 300

3 (5.9C)

The dot plot shows the high temperature each day for a two-week period in degrees Fahrenheit.



What is the difference between the highest temperature and the lowest?

F 8 degrees

G 12 degrees

H 9 degrees

J 11 degrees

Spiral 111

1 (5.9C)

The stem-and-leaf plot shows the weights of nine Great Dane dogs.

Great Dane Weight

Stem	Leaf
8	0 2 3
9	2 2 6 8
10	1 5

KEY
5|2 = 52

What fraction of the dogs weigh less than 90 pounds?

A $\frac{3}{10}$

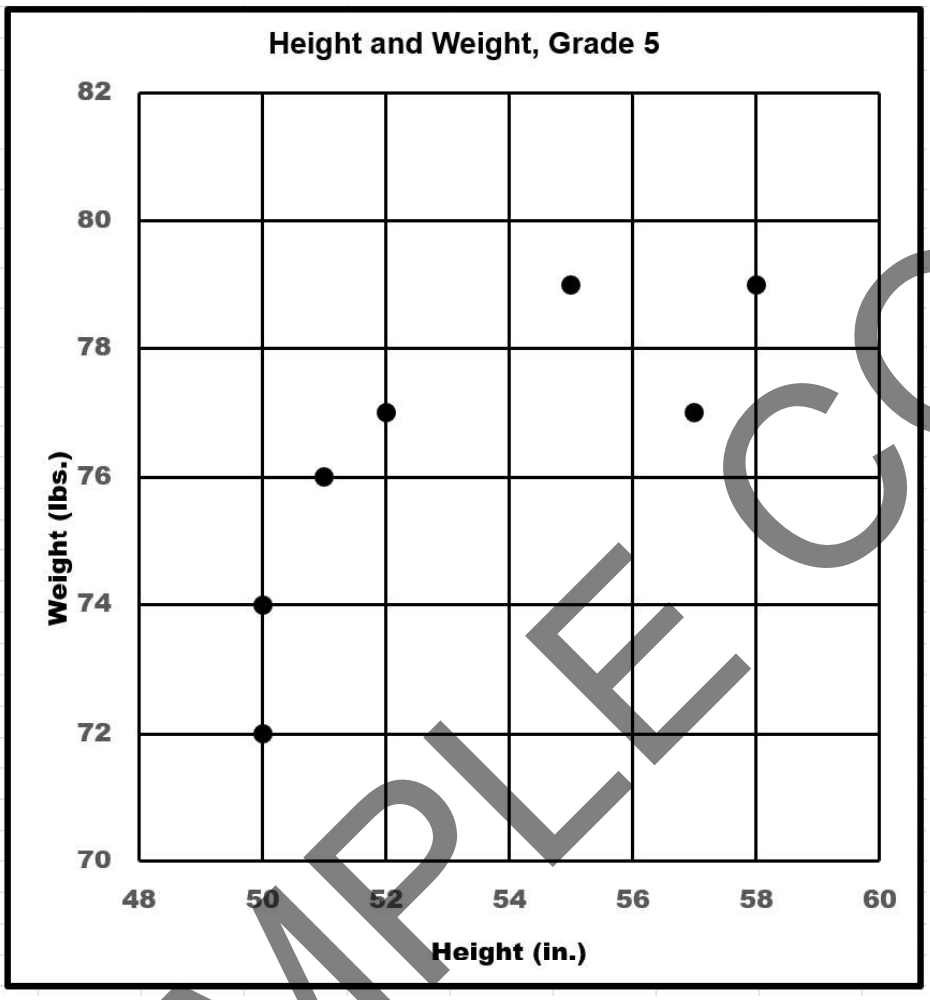
B $\frac{2}{9}$

C $\frac{1}{2}$

D $\frac{1}{3}$

2 (5.9B)

Darby creates a table to match the data shown in the scatter plot.



Height (in.)	Weight (lb.)
57	77
52	77
50	72
50	74
51	76
55	
58	79

What number will best complete Darby's table?

F 78

G 73

H 79

J 74

3 (5.3L)

A box of cereal contains 9 cups of cereal. How many $\frac{1}{2}$-cup servings can be eaten from one box of cereal?

A 4.5

B $8\frac{1}{2}$

C 18

D 12

Spiral 112

1 (5.3L)

Rachel divided $\frac{1}{3}$ of a large, cheese pizza equally among 3 friends and herself. What fraction of the whole pizza did each person get?

F $\frac{1}{6}$

G $\frac{1}{8}$

H $\frac{1}{9}$

J $\frac{1}{12}$

2 (5.3K)

A scientist fed two Guinea Pigs different diets and tracked their mass each week for five weeks. The table shows the results of his measurements.

Week	Pig A	Pig B
One	680.389 g	691.25 g
Two	699.45 g	689.6 g
Three	700.002 g	689.01 g
Four	701 g	688.85 g
Five	702.33 g	687.99 g

What is the total change in mass for Pig A from Week Three to Week Four?

A 0.998 g

B 0.16 g

C 1.158 g

D 0.838 g

3 (5.4F)

What is the value of the expression shown?

$$(54 \div 9) \times (17 + 8)$$

F 200

G 175

H 132

J 150

Spiral 113

1 (5.10B)

Which equation is true?

A net income – gross income = expenses

B gross income + expenses = net income

C gross income – net income = expenses

D net income + gross income = expenses

2 (5.10B)

Rachel and Jackson open a lemonade stand. Which of the following would NOT affect their net income?

F the cost of lemons

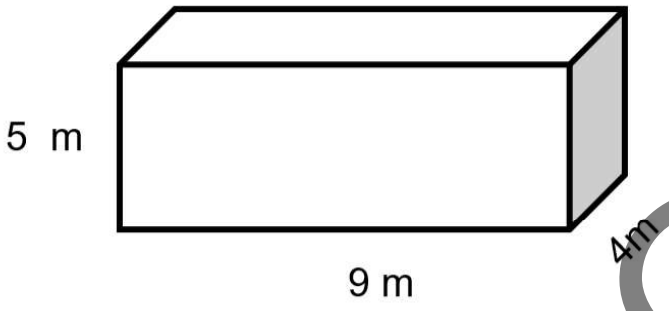
G the cost of cups

H how much they charge per cup

J the card table they use for free

3 (5.4H)

Seventy-five of the containers shown can fit into the hold of a cargo ship.



What is the capacity of the ship's hold?

A 1,350 cubic meters

B 180 cubic meters

C 15,280 cubic meters

D 13,500 cubic meters

Spiral 114

1 (5.10E)

The Smith family has unexpected medical bills. What might be the best plan to stay within their budget?

F skip paying the rent for a month

G cancel their health insurance

H stop eating out and cook at home more

J quit their jobs and hope to find better paying jobs

2 (5.10E)

Ralph takes a new job that pays less than his old one. He looks at items in his monthly budget with hopes of reducing his expenses.

- Rent $1,100
- Car payment $829
- Entertainment $215
- Insurance $655

Which of these expenses can Ralph most easily change to stay within his budget?

A rent

B car payment

C entertainment

D insurance

3 (5.3L)

Jerome walks at a rate of one mile every $\frac{1}{4}$ of an hour. If Jerome keeps this rate, how far can he walk in 2 hours?

F $\frac{1}{2}$ mile

G 8 miles

H $6\frac{1}{2}$ miles

J 6 miles

Spiral 115

1 (5.10F)

The chart shows Lisa's income and expenses for the month.

May Budget

Expenses		Income	
Food	$42	Babysitting	$60
Movie tickets	$22	Allowance	$35
Bowling	$29	House cleaning	$40
Clothes	$61	Extra income	

How much more does Lisa need to earn to maintain a balanced budget for the month?

A $38

B $19

C $29

D $16

2 (5.3K)

Mandy buys a coat for $129.80. The following week the coat goes on sale for $99.99. How much in dollars could Mandy have saved by waiting a week to buy the coat?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

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③	③	③		③	③
④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

3 (5.3L)

There are 12 medium pizzas at a birthday party.

- Each pizza is cut into equal size pieces.
- Each piece is $\frac{1}{6}$ of a pizza.

How many pieces of pizza are there at the party?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

			.		
⓪	⓪	⓪		⓪	⓪
①	①	①		①	①
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④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 116

1 (5.4B)

Addison's school is collecting bottled water for hurricane relief. They set a goal of 20,000 bottles. The first week, students brought in 3,290 bottles. The second week, students donated 4,312 bottles. The third week, students brought 4,728 bottles. After the fourth week's donations, they only lacked 3,265 bottles. Which equation can be used to calculate the number of bottles (b) donated during the fourth week?

F $20,000 - 3,265 = 3,290 + 4,312 + 4,728 - b$

G $20,000 + 3,265 = 3,290 + 4,312 + 4,728 + b$

H $20,000 - 3,265 = 3,290 + 4,312 + 4,728 + b$

J $20,000 + b = 3,290 + 4,312 + 4,728$

2 (5.4B)

Mason wants a new pair of athletic shoes that cost $158. He received $55 for his birthday and earned $38 walking the neighbor's dog each day after school. Which equation can be used to calculate the amount of money (m) Mason needs to buy the shoes?

A $55 + 38 - m = 158$

B $m - 158 = 55 + 38$

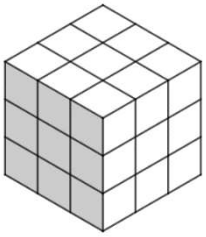
C $158 + m = 55 + 38$

D $55 + 38 + m = 158$

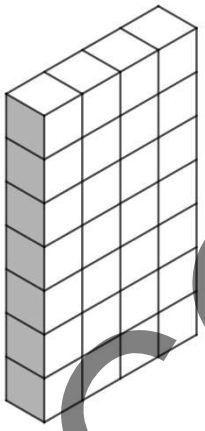
3 (5.6A)

A student builds some rectangular prisms using cubes that each have a volume of 1 cubic centimeter. Which rectangular prism has a volume of 48 cubic centimeters?

F



G



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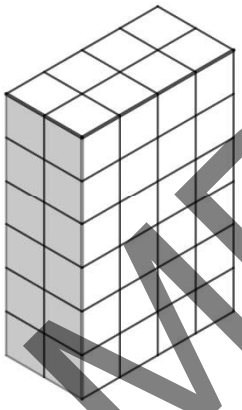
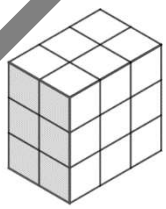


J

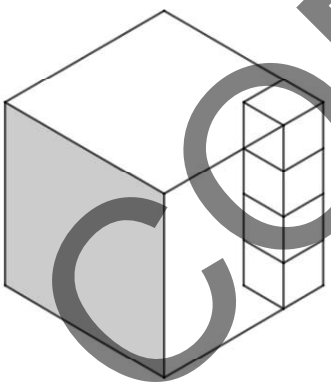


Spiral 117

1 (5.6A)

Jenn is filling a cube-shaped container with smaller cubes. The volume of each of these smaller cubes is 1 cubic inch. She has already put some of these cubes into the container, as shown in the model.

= 1 cubic inch



What is the total number of small cubes that will fit in the container?

A 64 cubic inches

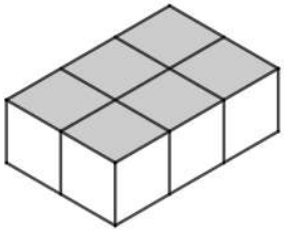
B 128 cubic inches

C 48 cubic inches

D 68 cubic inches

2 (5.6B)

The base of a rectangular prism is shown. Each small cube has an edge length of 1 inch. The finished prism has a total of 12 layers.



What is the volume of the prism in cubic inches?

F 60 cubic inches

G 84 cubic inches

H 74 cubic inches

J 72 cubic inches

3 (5.3L)

What is the value of this expression?

$$\frac{1}{6} \div 16$$

A $\frac{8}{3}$

B $\frac{1}{96}$

C 96

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

Spiral 118

1 (5.4B)

Rylee budgets $600 a month for groceries. The table shows how much of her budget she used each week in October.

Grocery Budget

Date	Amount Spent
October 5	$158
October 12	$175
October 19	$132
October 26	?

Which equation could NOT be used to calculate the amount of money (m) that Rylee can spend the last week in October and still stay within her budget?

F $600 + 465 = m$

G $600 - 465 = m$.

H $600 = m + 465$

J $600 - m = 465$

2 (5.8A)

What is the name for the coordinates used to name points on a coordinate graph?

A *x*-axis

B origin

C ordered pair

D *y*-axis

3 (5.3L)

A chemist divides $\frac{1}{8}$ of an ounce of sodium chloride equally into 5 test tubes. How much sodium chloride is in each test tube?

F $\frac{1}{5}$ of an ounce

G 40 ounces

H $\frac{5}{8}$ of an ounce

J $\frac{1}{40}$ of an ounce

Spiral 119

1 (5.4B)

For the fifth-grade spring celebration Mrs. Jamison bought 6 dozen cupcakes at $5.00 a dozen. She also bought 2 gallons of punch at $2.00 a gallon. She spent $9.00 on balloons, plates, and cups. Which equation can be used to determine the amount of money (m), that Mrs. Jamison spent on the spring celebration?

A $(6 \times 2) + (2 \times 5) + 9 = m$

B $(6 \times 5) + (2 \times 9) + 2 = m$

C $(6 \times 5) + (2 \times 2) + 9 = m$

D $(6 \times 5) + (2 \times 2) - 9 = m$

2 (5.4B)

The Prom Committee has a budget of $1,700. The table is a record of how much different items cost.

Prom

Item	Expense
room rental	$550
cleaning fee	$125
food	$350
music	$400
decorations	?

Which equation can be used to determine the amount the committee has left to spend on decorations (d)?

F $1700 = 1425 - d$

G $1700 = 1425 + d$

H $1700 + d = 1425$

J $d - 1425 = 1700$

3 (5.3L)

Kaylin cut a 12-yard piece of rope into pieces that were $\frac{1}{3}$-yard long. How many pieces of rope did Kaylin have after cutting it?

Record your answer and fill in the bubbles. Be sure to use the correct place value.

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④	④	④		④	④
⑤	⑤	⑤		⑤	⑤
⑥	⑥	⑥		⑥	⑥
⑦	⑦	⑦		⑦	⑦
⑧	⑧	⑧		⑧	⑧
⑨	⑨	⑨		⑨	⑨

Spiral 120

1 (5.3L)

Stephanie added $\frac{1}{2}$ tablespoon of almond flavoring to cupcake batter. The batter made 24 cupcakes. How much flavoring was in each cupcake?

F $\frac{1}{12}$ tablespoon

G 12 tablespoons

H $\frac{1}{48}$ tablespoon

J $\frac{1}{24}$ tablespoon

2 (5.4B)

For a camping trip, a scout troop plans meals for 12 scouts and 3 adults for 4 days. If the scouts plan for 3 meals a day, which equation can be used to determine the number of meals (m) they will need?

A $(12-3)\times 4\times 3 = m$

B $(12+3)\times 4+3 = m$

C $(12+3)-4\times 3 = m$

D $(12+3)\times 4\times 3 = m$

3 (5.3L)

A caterer made 15 cups of fruit salad for a party. She divided the salad into small bowls with $\frac{1}{3}$ cup of salad in each bowl. How many small bowls of fruit salad did she prepare?

F 5

G 45

H 18

J 3