Calculator-Active Section

Answer questions 1–42 on your answer sheet. You may use a calculator.

1 Mr. Fraser asked four students in his class to find the greatest common factor of 24 and 36. Donte answered 2, Annika answered 3, Noelia answered 6, and Scott answered 12. Which student answered correctly?

A Donte

B Annika

C Noelia

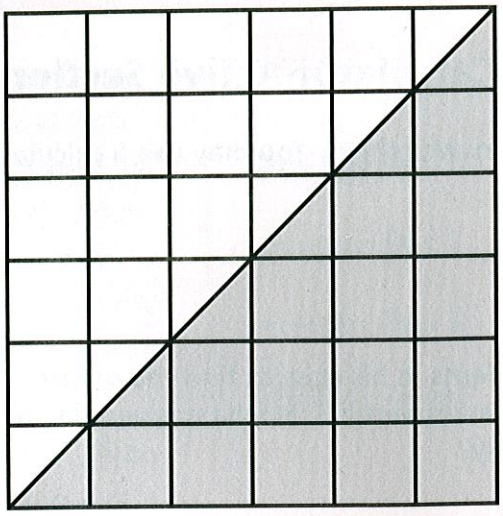
D Scott

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

$$14^2 - (5 - 3)^2 + (6 - 2)^2$$

Go On

3 What is the area of the triangle shown below?



A 36 square units

B 18 square units

C 12 square units

D 6 square units

4 Maria is making blueberry muffins using a blueberry cake recipe. To make the muffins, she has to divide the cake recipe in half. If the cake recipe calls for $\frac{2}{3}$ cup of milk, which expression can Maria use to calculate how much milk she needs to make the muffins?

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

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

C $\frac{2}{3} \times \frac{1}{2}$

D $2 \div \frac{2}{3}$

5 Sarah sells beaded necklaces. She makes a profit of $4 on every necklace she sells. Which table represents the profit she makes?

A

PROFIT

Number of Necklaces Sold	Profit ($)
4	16
6	24
8	32
10	40

B

PROFIT

Number of Necklaces Sold	Profit ($)
4	8
6	10
8	12
10	14

C

PROFIT

Number of Necklaces Sold	Profit ($)
4	4
6	8
8	12
10	16

D

PROFIT

Number of Necklaces Sold	Profit ($)
4	16
6	20
8	24
10	28

Go On

6 Luke jogged a total of 56.5 miles last week. If Luke jogged the same distance, d, for 3 days and half the distance on the remaining days, which algebraic equation can he use to determine how many miles he jogged each day?

A $3d + 4 \times \frac{1}{2}d = 56.5$

B $7 + 56.5 = d + \left(\frac{1}{2}d\right)$

C $3 + d + 4 + \left(\frac{1}{2}d\right) = 56.5$

D $3 \times (56.5) + 4 \times 28.25 = d$

7 The table below shows the number of home runs hit last year by each of the 8 teams in a local baseball league.

HOME RUNS HIT IN A LOCAL BASEBALL LEAGUE

Team	Number of Home runs
Americans	54
Bombers	48
Comets	50
Dingers	36
Exterminators	50
Flames	44
Ghosts	39
Hurricanes	55

What is the median of the data set? Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

8 The inequality, $6t > 48$, represents six times a number is greater than forty-eight. Which statement ***best*** describes the value of t?

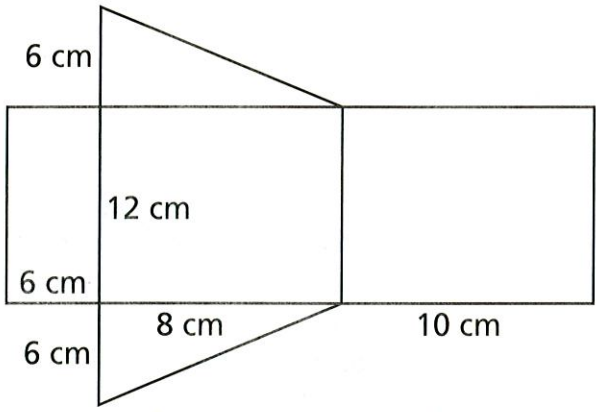
A The value of t is greater than 8.

B The value of t is less than 8.

C The value of t is equal to 8.

D The value of t is 8 or less.

9 Use the net shown below.



[not drawn to scale]

What is the surface area of the triangular prism?

A 288 cm^2

B 312 cm^2

C 336 cm^2

D 368 cm^2

Go On

10 The formula below is used to convert a temperature in degrees Fahrenheit to a temperature in degrees Celsius.

$$°C = \frac{5}{9}(°F - 32)$$

What is the temperature in degrees Celsius for a temperature of 40°F?

A $-9\frac{7}{9}$ °C

B $1\frac{4}{9}$ °C

C $4\frac{4}{9}$ °C

D $22\frac{2}{9}$ °C

11 Square *QRST* has vertices *Q*(2, 8), *R*(−4, 8), *S*(−4, 2), and *T*(2, 2) and triangle *QTU* has vertices *Q*(2, 8), *T*(2, 2) and *U*(6, 2).

What is the area of the quadrilateral formed by the square and triangle?

A 60 square units

B 48 square units

C 36 square units

D 12 square units

12 In an art class, 40% of the students used watercolors for painting. Ten students in the art class used watercolors. How many students were there in the class? Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

13 What is the value of the expression $\frac{x}{2} + y^2$ when $x = 8$ and $y = -10$?

A -96

B -36

C 52

D 104

14 Rectangle $PQRS$ has coordinates $P(8, -8)$, $Q(2, -8)$, $R(2, -4)$ and $S(8, -4)$. What is the perimeter of $PQRS$?

A 8 units

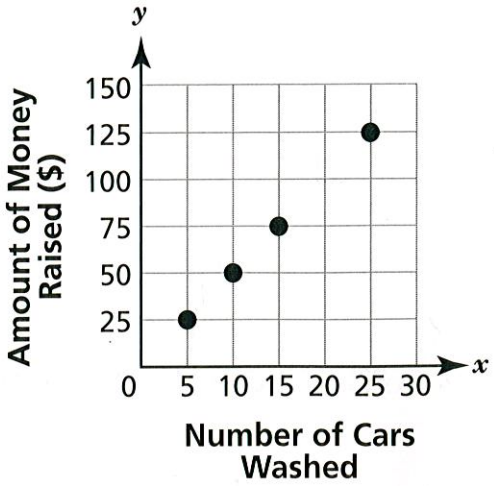
B 10 units

C 20 units

D 32 units

Go On

15 The football team decided to hold a car wash as a fundraiser. They made this graph to see how much money they would raise from washing cars.



Which table models the data in the graph?

Number of Cars Washed	Amount of Money Raised
5	25
10	50
15	75
25	125
30	150

A

Number of Cars Washed	Amount of Money Raised
5	25
10	50
15	75
25	125
30	175

C

Number of Cars Washed	Amount of Money Raised
25	5
50	10
75	15
125	25
150	30

B

Number of Cars Washed	Amount of Money Raised
25	5
50	10
75	15
125	25
175	30

D

16 Which statement is ***true***?

A The least common multiple of 4 and 8 is 16.

B The least common multiple of 4 and 10 is 40.

C The least common multiple of 6 and 10 is 30.

D The least common multiple of 6 and 8 is 48.

17 Jimi is n years old. Carly is 4 years older than Jimi. Which expression represents Carly's age?

A $2n + 4$

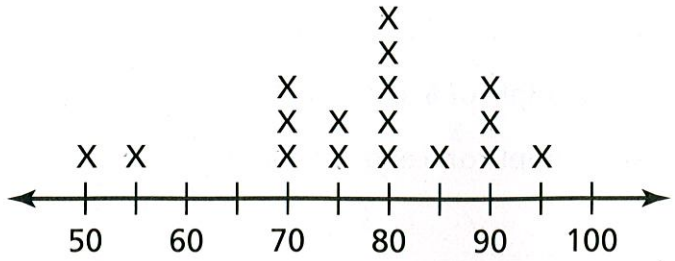
B $n + 4$

C $n - 4$

D $4n$

Go On

18 The line plot below shows the scores students in Ms. Chan's class received on their chapter test. What is the mean of the data, rounded to the nearest whole number?



A 45

B 75

C 77

D 80

19 Four friends wrote the sum of 24 and 40 using a common factor and the distributive property.

Name	Expression
Anna	8(4 + 5)
Mila	4(6 + 8)
Lara	4(6 + 9)
Ryder	8(3 + 5)

Who wrote the expression that uses both the greatest common factor of 24 and 40 and gives the sum of 24 and 40?

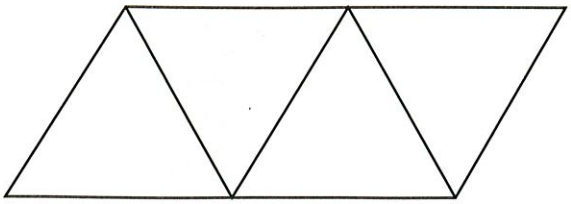
A Anna

B Mila

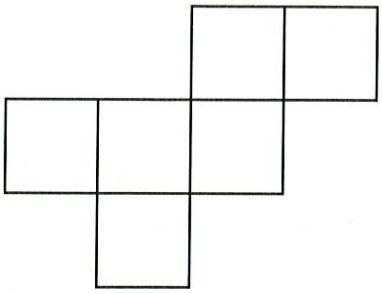
C Lara

D Ryder

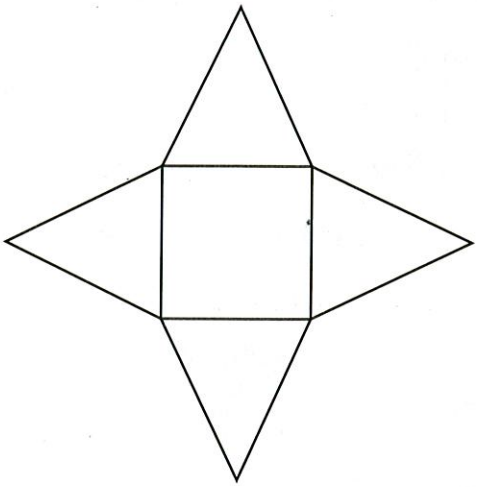
20 Which net will form a triangular prism when folded?



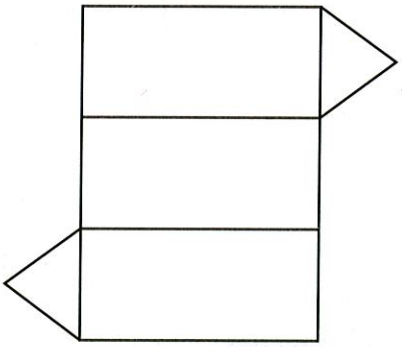
A



C



B



D

21 Which expression is equivalent to $4 - 8x$?

A $4(1 - 8x)$

B $2(^{-}4x + 2)$

C $4(^{-}4 - 2x)$

D $2(1 - 4x)$

Go On

22 A stock's value changed by -15.75 from the previous day. Which statement describes the difference in the stock's value?

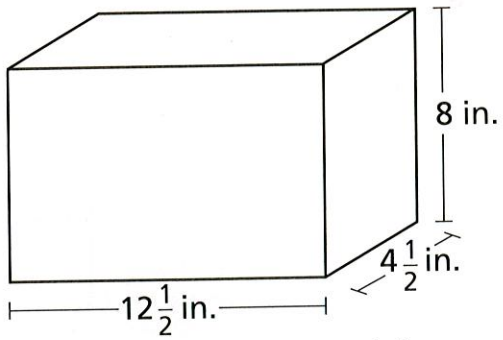
A The value is \$15.75 less because $|-15.75| = 15.75$

B The value is \$15.75 more because $|-15.75| = 15.75$

C The value is \$15 less because $|-15.75| = 15$

D The value is \$15 more because $|-15.75| = 15$

23 What is the volume, in cubic inches, of the right rectangular prism shown below?



[not drawn to scale]

A 25 cubic inches

B $120\frac{1}{2}$ cubic inches

C $384\frac{1}{2}$ cubic inches

D 450 cubic inches

24 Andrew had \$250 in his savings account. He deposited the same amount of money for each of the next 6 weeks. For the next 4 weeks, he deposited twice the amount of money as the previous 6 weeks. If d is the amount of money Andrew deposited each week, which expression represents how much money he will he have in his account after the 10th week?

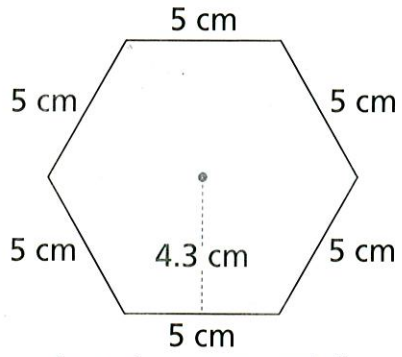
A $250 + d + 4(2d)$

B $250 - d + 4(2d)$

C $250 + 6d + 4(2d)$

D $250 - 6d + 4(2d)$

25 Consider the regular hexagon shown below.



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What is the area of the hexagon?

A 64.5 square centimeters

B 30 square centimeters

C 21.5 square centimeters

D 10.75 square centimeters

26 The product of two factors is $-18x + 45$. What are the factors?

A $-9(2x + 5)$

B $-9(2x - 5)$

C $9(2x + 5)$

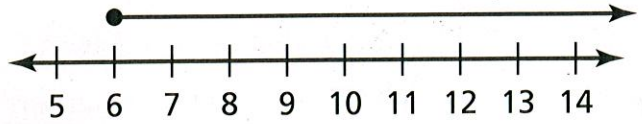
D $9(2x - 5)$

27 A can of tomato soup contains 8 ounces of soup. One ounce is equal to 28.35 g. How many grams are in the can of soup? Express your answer to the nearest tenth place. Record your answer and fill in the bubbles on your answer document.

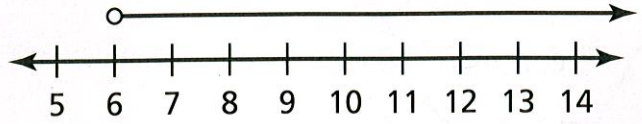
Go On

28 Which number line represents the solution to the inequality $x \geq 6$?

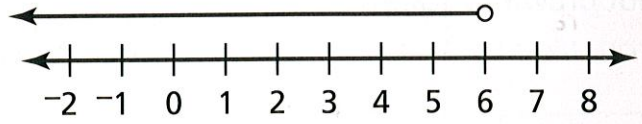
A



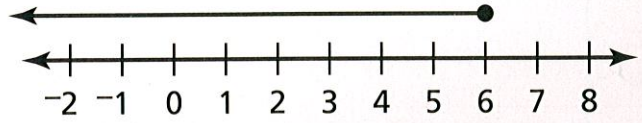
B



C



D



29 Vincent burns 30 calories walking 10 minutes. At this rate, how many calories will he burn in 15 minutes?

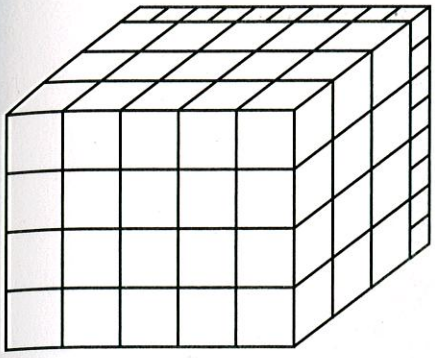
A 15 calories

B 35 calories

C 40 calories

D 45 calories

30 A rectangular prism is shown below.



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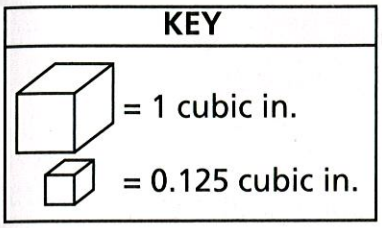


What is the volume of the prism?

A 60 cubic inches

B 70 cubic inches

C 80 cubic inches

D 90 cubic inches

31 Sam needs at least 78 credits to get his college degree. At the end of his third year, Sam has a total of 52 credits. Which inequality represents the number of credits, C, Sam needs to get his degree?

A $C \leq 26$

B $C \leq 78$

C $C \geq 26$

D $C \geq 52$

Go On

32 What is the mean absolute deviation for this data set?

10, 12, 10, 14, 17, 15

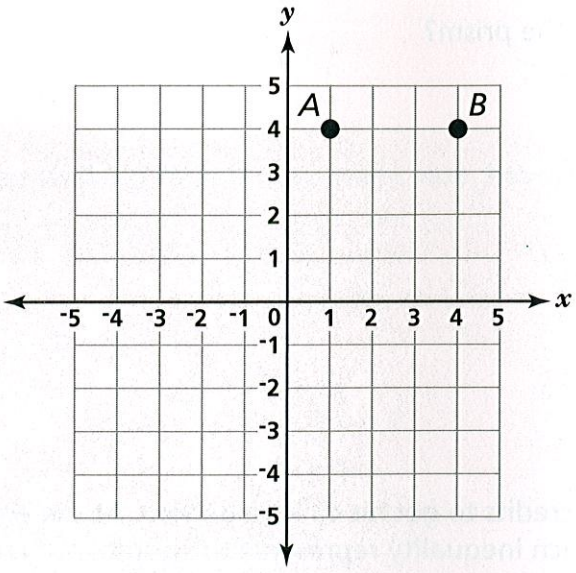
A 13

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

C $2\frac{1}{3}$

D 0

33 What is the distance between points *A* and *B*?



A 2 units

B 3 units

C 4 units

D 5 units

34 A shipping container, in the shape of a rectangular prism, fits in a space that has a volume of 2,212 cubic meters. If the container is 7 meters wide and 8 meters tall, how long is the container?

A $39\frac{1}{2}$ meters

B 70 meters

C $80\frac{1}{2}$ meters

D 39 meters

35 Which expression is equivalent to $a + a + a + b + b + b$?

A $3a + b$

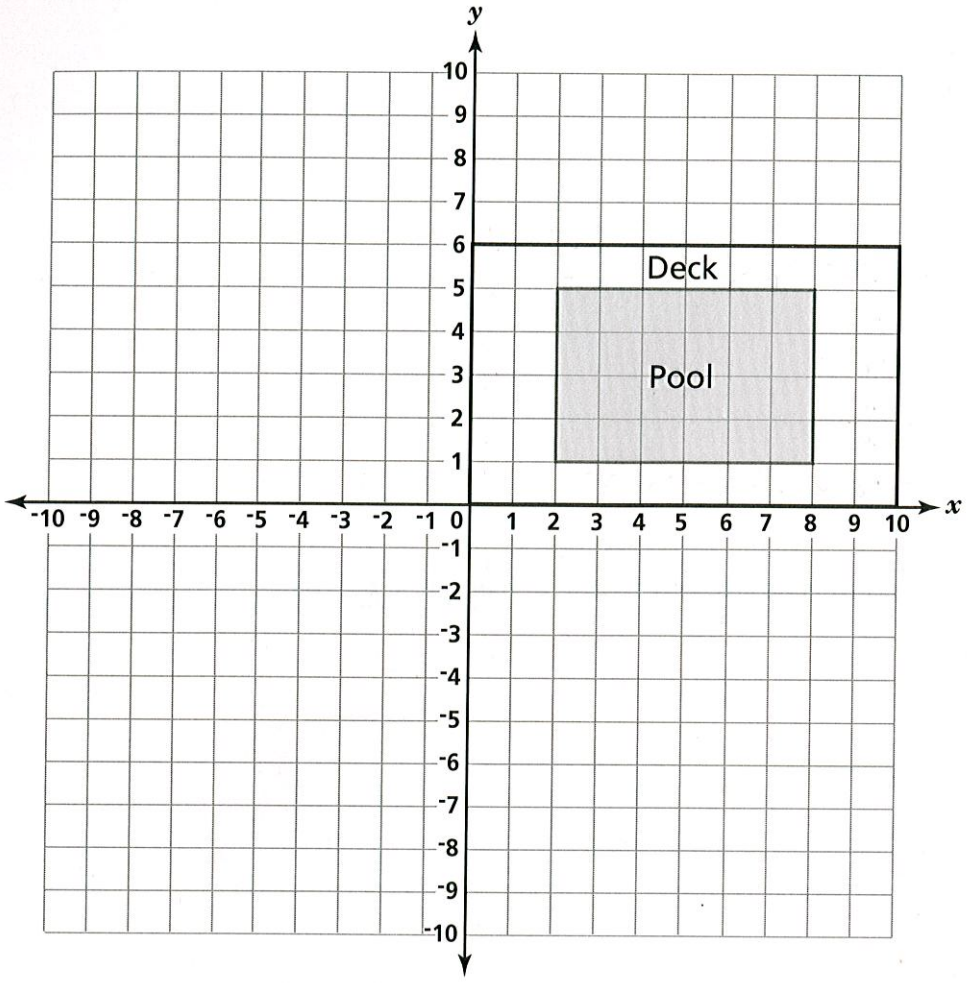
B $a + 3b$

C $3a + 3b$

D $3 + ab$

Go On

36 The grid below shows the location of the swimming pool and the deck surrounding it on a coordinate plane.



If each square represents one square yard, what is the area of the deck?

A 20 square yards

B 24 square yards

C 34 square yards

D 36 square yards

37 Kendra spent $35 on dinner and a movie. If she spent $12 on her movie ticket, which equation can be used to find the amount, d, Kendra spent on dinner?

A $d + 12 = 35$

B $d - 12 = 35$

C $35 + 12 = d$

D $12 - 35 = d$

38 Which inequality has infinitely many ***positive*** solutions?

A $-100 \leq x < 1000$

B $-4 < x < 12$

C $x > 10$

D $x \leq 5$

39 Which expression has 4 and $(7x + 5)$ as factors?

A $7x + 9$

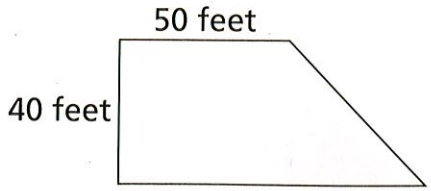
B $11x + 9$

C $28x + 5$

D $28x + 20$

Go On

40 Arthur's farm is in the shape shown below.



[not drawn to scale]

What is the area of the farm?

A 120 square feet

B 2,000 square feet

C 2,600 square feet

D 3,200 square feet

41 Ashley's father is five times as old as Ashley. Ashley's father is 40 years old. How old is Ashley?

A 4 years

B 5 years

C 8 years

D 10 years

42 Jamaal thinks the equation $\frac{2}{7} \div \frac{3}{5} = \frac{10}{21}$ is true. Which of the following can Jamaal use to check his thinking?

A Verify that $\frac{2}{7} \times \frac{3}{5}$ is equal to $\frac{21}{10}$.

B Verify that $\frac{10}{21} \times \frac{3}{5}$ is equal to $\frac{2}{7}$.

C Verify that $\frac{10}{21} \times \frac{2}{7}$ is equal to $\frac{3}{5}$.

D Verify that $\frac{10}{21} \div \frac{3}{5}$ is equal to $\frac{2}{7}$.

STOP

Calculator-Inactive Section

Answer questions 43–65 on your answer sheet. You may NOT use a calculator.

43 Which statement is true about the expression $7(2x + 5)$?

A The expression has two factors.

B The expression has three factors.

C The factor $(2x + 5)$ has three terms.

D The expression is the sum of three terms.

44 The table below lists countries around the world that have land areas below sea level. If 0 is sea level, which country is closest to sea level?

Country	Elevation
United States	−86 meters
Australia	−15 meters
Dominican Republic	−46 meters
Mexico	−10 meters
Morocco	−55 meters

A United States

B Dominican Republic

C Australia

D Mexico

Go On

45 Which expression ***best*** represents the statement?

A number multiplied by 4, subtracted from 65.

A $4(65 - x)$

B $4x - 65$

C $65 - 4x$

D $4(x - 65)$

46 Mrs. Benjamin analyzed the scores her students earned on their most recent vocabulary test. The results were a mean score of 76 (out of 100), a median score of 80, and a range of 38. Which statement is ***true*** about the scores the students earned?

A The lowest score earned by any student was a 38.

B 50% of the students earned a score of 80 or higher.

C 50% of the students earned a score of 76 or lower.

D The highest score earned by any student was an 80.

47 In Josie's garden, the ratio of zinnias to petunias is 5:3. Which sentence describes the ratio?

A For every 5 zinnias, there are 3 petunias.

B For every 3 zinnias, there are 5 petunias.

C For every 8 flowers, there are 5 zinnias.

D For every 3 petunias, there are 8 flowers.

48 Which expression ***correctly*** represents the expression 7^4?

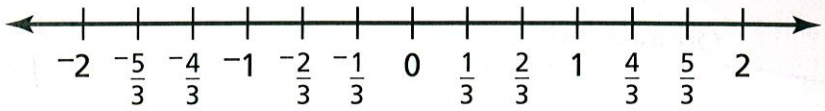
A $4 + 7$

B 4×7

C $7 + 4 + 7 + 4 + 7 + 4 + 7 + 4$

D $7 \times 7 \times 7 \times 7$

49 Refer to the number line below.



Which statement is ***true***?

A Since -2 is to the left of 1, $-2 < 1$.

B Since -1 is to the left of 1, $-1 = 1$.

C Since -2 is to the left of $\frac{1}{3}$, $-2 > \frac{1}{3}$.

D Since -2 is to the left of -1, $-1 < -2$.

50 What is the sum of 58.3 and 12.08?

A 6.038

B 60.38

C 70.38

D 703.8

51 What is the constant term in the expression $x^2 - 2x + 7y + 8$?

A -2

B 1

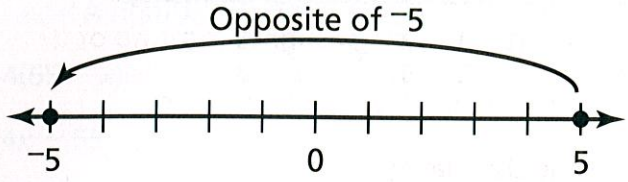
C 7

D 8

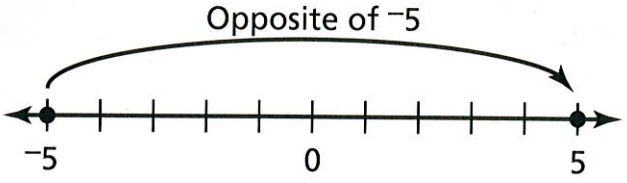
Go On

52 Which number line represents the opposite of -5?

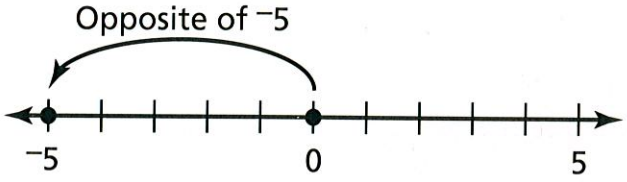
A



B



C



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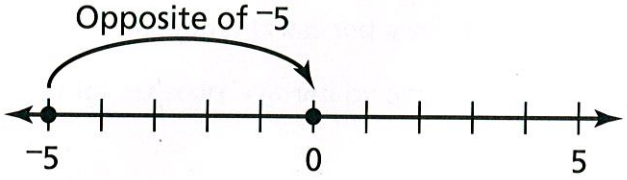


53 A local club sells candles as a fundraiser. A set of 6 candles sells for $18. What is the cost of on candle?

A $3

B $4

C $6

D $8

54 In hockey, a player is assigned a +3 rating if his team scores 3 more goals than the opponent during the player's time on the ice. A hockey player is assigned a −1 rating if his team scored 1 fewer goal than the opposing team during the player's time on the ice. Which phrase ***best*** describes the events that would result in a player being assigned a rating of 0?

A The player's team scored no goals while the player was on the ice.

B The opponent scored no goals while the player was on the ice.

C The player's team scored one more goal than the opponent while the player was on the ice.

D The player's team and the opponent scored the same number of goals while the player was on the ice.

55 Susan is creating a survey. Which question is a statistical question and could be part of the survey?

A "What is my name?"

B "What day is today?"

C "What is the first month of the year?"

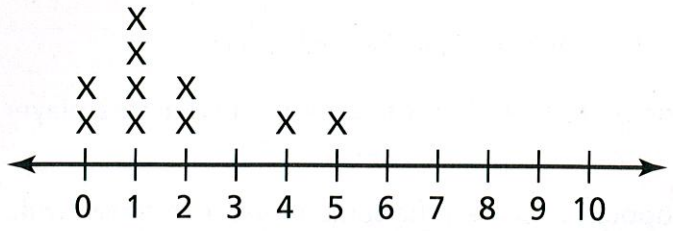
D "Would you vote for me for class president?"

Go On

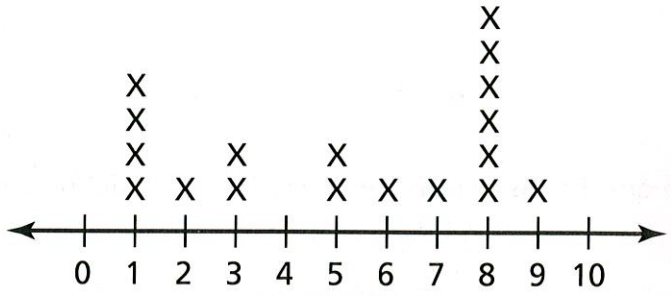
56 The data below give the number of goals Liz scored in each of her first ten soccer games. Which line plot best models these data?

4, 1, 2, 0, 2, 1, 1, 5, 1, 0

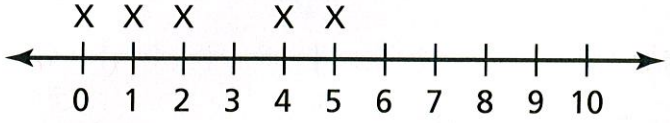
A



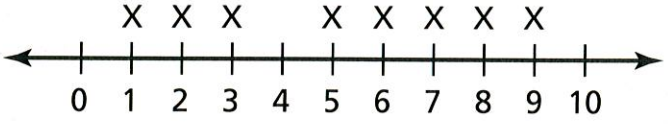
B



C



D



57 In which quadrant does the point $(-2, 5)$ lie?

A Quadrant I

B Quadrant II

C Quadrant III

D Quadrant IV

58 In golf, 0 represents a score of par, and a player's score describes how far it is from par. In the table below, which golfer is the most above par?

Golfer	Score
Cortez	-3
Langley	0
Hopkins	4
Chin	-5

A Cortez

B Langley

C Hopkins

D Chin

59 What is the opposite of $-6\frac{3}{4}$?

A $-6\frac{3}{4}$

B $-\frac{4}{27}$

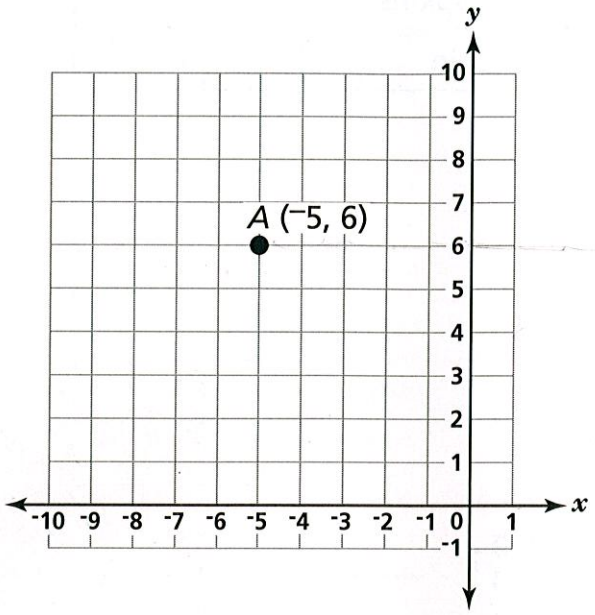
C 0

D $6\frac{3}{4}$

Go On

60 What is the quotient of 1,476 divided by 12? Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

61 Use the grid below.



Which ordered pair represents point *A* reflected across the *y*-axis?

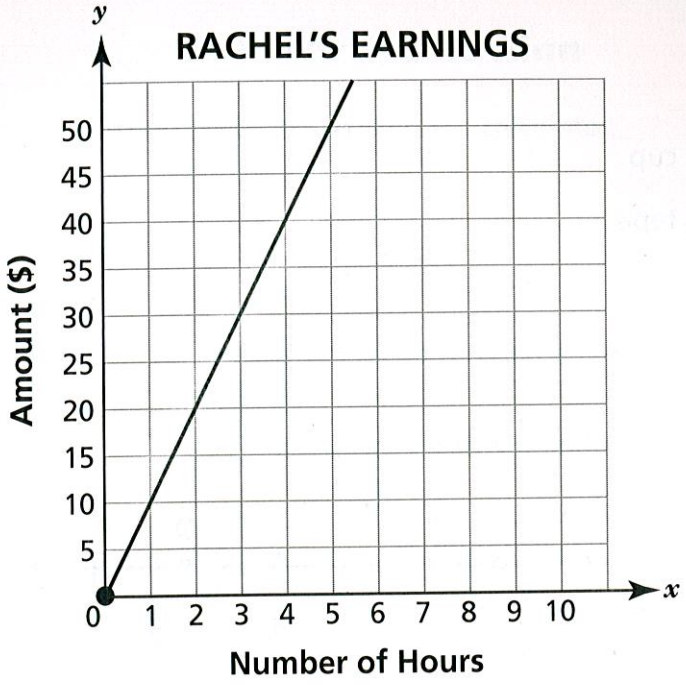
A (−6, −5)

B (−5, −6)

C (5, 6)

D (6, 5)

62 Rachel works part time at a clothing store. The graph below shows her earnings.



Which equation is used to determine the relationship between the number of hours Rachel worked, x, and her earnings, y?

A $y = 10x$

B $y = 20x$

C $y = x + 10$

D $y = x + 20$

63 What is the product of 14.5 and 20.2? Express your answer to the nearest tenths place. Record your answer and fill in the bubbles on your answer document.

Go On

64 Stephan is gathering data about the heights of saplings in the local forest for a biology project. Which tool should he use to gather the data?

A a stopwatch

B a scale

C a measuring cup

D a measuring tape

65 Which point on the number line ***best*** represents $-\frac{6}{8}$?

A point *A*

B point *B*

C point *C*

D point *D*

STOP