Name: _____

Date: _____

1. What is the solution of the equation below?

    $$x + 8.63 = 11.001$$

    A. $x = 19.631$
    B. $x = 10.138$
    C. $x = 3.471$
    D. $x = 2.371$

2. Solve the equation below.

    $$0.3r = 2.1$$

    A. $r = 0.7$
    B. $r = 1.8$
    C. $r = 7$
    D. $r = 18$

3. Kelly saves $5 every week. Which expression represents the amount of money, in dollars, Kelly will save in w weeks?

    A. $5 + w$
    B. $5 - w$
    C. $5w$
    D. $\frac{5}{w}$

4. Which equation has the solution $x = 2$?

    A. $2x - 3 = 19$
    B. $3x + 2 = 8$
    C. $4x - 4 = -4$
    D. $5x + 1 = 10$

5. Find the value of the expression.

    $$24\tfrac{3}{5} + 4^3 \times (8\tfrac{1}{5} - 2)$$

6. To convert a temperature from degrees Celsius to degrees Fahrenheit, the temperature in degrees Celsius is multiplied by 1.8, and then 32 is added to the product.

    Write an expression that can be used to convert a temperature from degrees Celsius, C, to degrees Fahrenheit, and then use that expression to convert 25 degrees Celsius to degrees Fahrenheit.

7. Michelle makes jewelry boxes containing drawers of equal size. The numbers of drawers in three different jewelry boxes and the corresponding total volumes of the drawers are shown in the table below.

    JEWELRY BOXES

Number of Drawers	Total Volume (cubic inches)
2	5
3	7.5
4	10

    Write an equation for the relationship between the number of drawers in the jewelry box, d, and the total volume of the drawers in the jewelry box, V. Use your equation to determine the number of drawers in a jewelry box with a total volume of 17.5 cubic inches.

8. Jorge bought a crate of floor tiles for $95.94. The crate had 6 boxes of floor tiles. Each box contained 20 floor tiles.

Write and solve an equation to determine the cost per box, b. Then write and solve a second equation to determine the cost per tile, t, to the nearest cent.

9. An equation is shown below.

$$12 - 9 + c = 12$$

What value of c makes the equation true?

A. 0   B. 3   C. 9   D. 12

10. The relationship between Robert's age, r, and Julia's age, j, can be represented by the equation shown below.

$$r = j + 3$$

Which table of values represents the relationship between Robert's age and Julia's age?

A.   **POSSIBLE AGES**

Robert's Age, r (years)	Julia's Age, j (years)
9	12
15	18
21	24

B.   **POSSIBLE AGES**

Robert's Age, r (years)	Julia's Age, j (years)
9	3
15	5
21	7

C.   **POSSIBLE AGES**

Robert's Age, r (years)	Julia's Age, j (years)
9	6
15	12
21	18

D.   **POSSIBLE AGES**

| Robert's Age, r (years)	Julia's Age, j (years)
9	27
15	45
21	63

Easter Break Homework _Due Mon 4/29

11. Joe walks on a treadmill at a constant rate. The equation below describes the relationship between t, the time he walks in hours, and d, the distance he walks in miles.

$$d = 4t$$

Which graph represents the relationship between the amount of time Joe walks and the distance he walks?
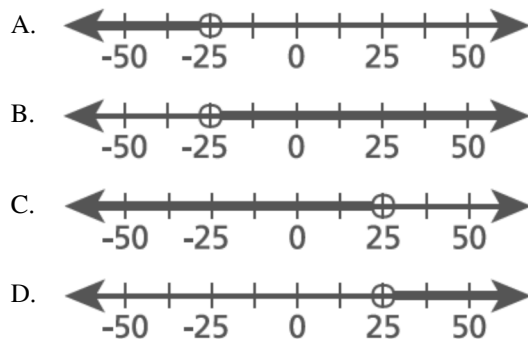
A.

B.

C.

D.
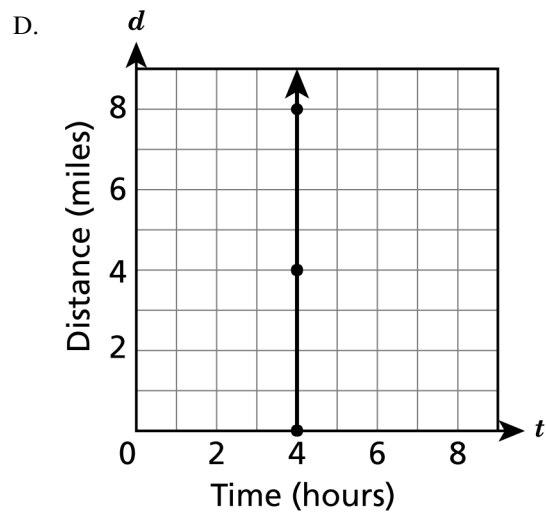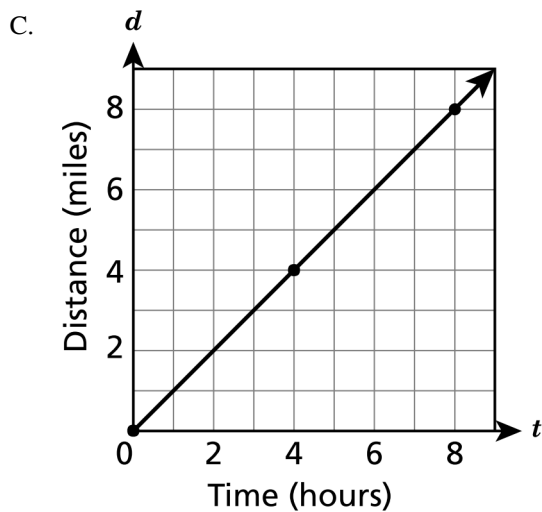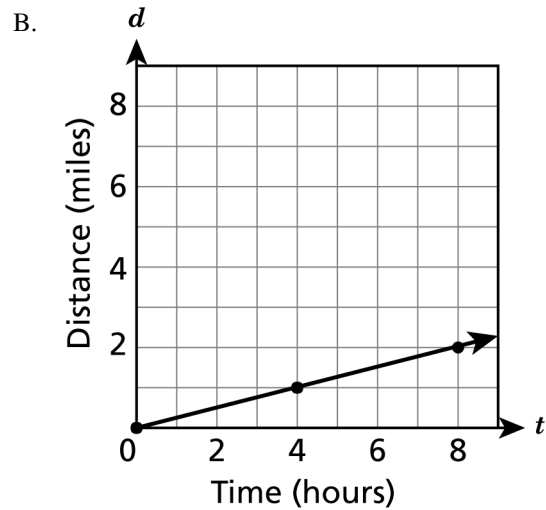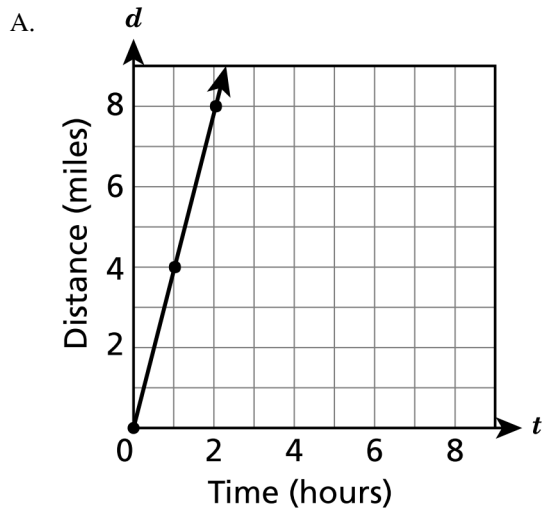
12. Which expression represents the perimeter of the figure below?
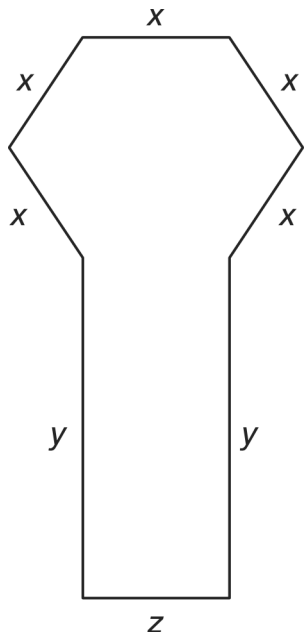
A. $5x + 2y$

B. $x + y + z$

C. $5x + 2y + z$

D. $(5 + 2 + 1)(x + y + z)$

13. Which number line shows a graph of the inequality $x > -25$?

14. Which expression is equivalent to $60 - 3y - 9$?

A. $3(17 - y)$ B. $3(20 - y) - 3$

C. $17(3 - y)$ D. $20(3 - 3y) - 9$

15. Tom wants to order tickets online so that he and three of his friends can go together to a water park. The cost of the tickets is $16.00 per person. There is also a $2.50 one-time service fee for ordering tickets online. Write an expression in terms of n that represents the cost for ordering n tickets online.

Use your expression to find the total cost for ordering 4 tickets online.

16. The diagram below shows a large square with two smaller squares within it.
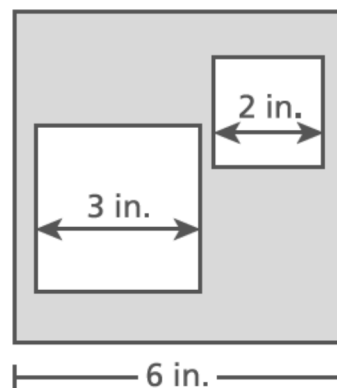
Write an expression, involving exponents, to represent the shaded area, in square inches, of the diagram. Then use that expression to calculate the shaded area, in square inches, of the diagram.

     Easter Break Homework _Due Mon 4/29

17. A rectangular exercise mat has a perimeter of 36 feet. The length of the mat is twice the width. Write and solve an equation to determine the length, in feet, of the mat. Then find the area, in square feet, of the mat.
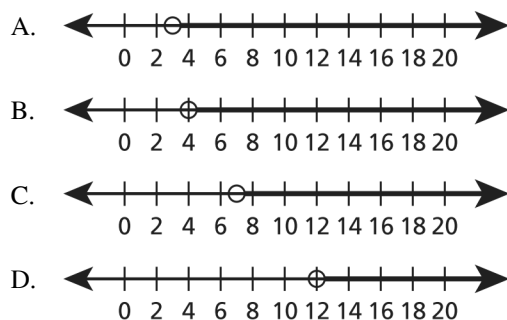
18. Evaluate:

$$6^3 + 7 \times 4$$

A. 100   B. 244   C. 757   D. 892

19. Which pair of expressions is equivalent?

A. $4(6x)$ and $10x$ B. $4(6x)$ and $24x$

C. $4x + 6x$ and $10x^2$ D. $4x + 6x$ and $24x$

20. A printer makes more than 3 copies of a book every hour. Which graph represents the number of books made in 4 hours?

A.

B.

C.

D.

21. What is the solution to the equation below?

$$4w = \tfrac{2}{3}$$

A. $w = \tfrac{2}{12}$ B. $w = \tfrac{2}{7}$

C. $w = \tfrac{8}{3}$ D. $w = 3\tfrac{1}{3}$
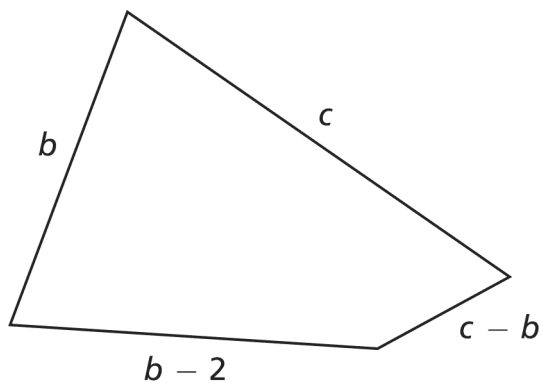
22. Which pair of expressions below is equivalent?

A. $x + y + x + y$ and $2(x + y)$

B. $5(2x - 3y)$ and $10x - 3y$

C. $4x - 5y$ and $5y - 4x$

D. $9x + 2y$ and $11xy$

23. Which expression represents the phrase below?

8 less than the product of 6 and a number, x

A. $8 - 6x$ B. $6x - 8$

C. $(6 + x) - 8$ D. $8 - (6 + x)$

24. In the diagram of a quadrilateral below, the variables represent the lengths of the sides, in inches.

[not drawn to scale]

Write an expression using the variables b and c that could be used to find the perimeter of the quadrilateral.

If $b = 11$ and $c = 16$ what is the perimeter of the quadrilateral?

25. Which expression is equivalent to $5(4x + 3) - 2x$?

A. $18x + 15$ B. $18x + 3$

C. $7x + 8$ D. $2x + 8$

26. Which two expressions are equivalent?

A. $x + x + x$ and x^3

B. $14x + 10 - 2x$ and $16x + 10$

C. $12x + 16x$ and $4(3x + 4x)$

D. $12x^2 + 5x + 10$ and $17x^2 + 10$

27. Jason has a coupon for $2.50 off any electronic book from an online book store. If the original price, in dollars, of an electronic book is p and the discounted price, in dollars, is d, which table shows the relationship between p and d?

A.

p	3.00	4.00	5.00	6.00
d	0.50	1.50	2.50	3.50

B.

p	3.00	4.00	5.00	6.00
d	5.50	6.50	7.50	8.50

C.

p	3.00	4.00	5.00	6.00
d	2.50	2.50	2.50	2.50

D.

p	3.00	4.00	5.00	6.00
d	7.50	10.00	12.50	15.00

28. Which pair of expressions below are equivalent?

A. $7(2x)$ and $9x$

B. $3x + 5x$ and $15x$

C. $4(2x - 6)$ and $8x - 24$

D. $x + x + x + x$ and x^4

Easter Break Homework _Due Mon 4/29

29. A shelf has four books on it. The weight, in pounds, of each of the four books on the shelf is listed below.

2.5, 3.2, 2.7, 2.3

Which inequality represents the weight, w, of any book chosen from the shelf?

A. $w > 2.3$

B. $w < 2.4$

C. $w > 3.2$

D. $w < 3.3$

30. The weight of an object on the moon, m, is about $\frac{1}{6}$ of the object's weight on Earth, e.

Which equation represents the approximate weight of an object on the moon in terms of the object's weight on Earth?

A. $m = \frac{1}{6} + e$

B. $m = \frac{e}{6}$

C. $m = 6 + e$

D. $m = 6e$

31. The table below lists the coordinates of four points.

COORDINATES

x	y
1	5
2	7
3	9
4	11

If x represents any number in the first column, which expression can always be used to find the value of y in the second column?

A. $5x$ B. $x + 2$ C. $x + 4$ D. $2x + 3$

32. Which expression is represented by the phrase "the square of y decreased by the quotient of 28 and 7"?

A. $\frac{28}{7} - y^2$

B. $y^2 - \frac{28}{7}$

C. $\frac{28}{7 - y^2}$

D. $\frac{28}{y^2 - 7}$

33. John's friend told him that he could earn $49 for handing out flyers at a local concert. John wants to calculate the hourly rate. If he works a total of 3.5 hours, the equation $3.5x = 49$ can be used to determine his hourly rate. What would John's hourly rate be, in dollars?

A. $1.40

B. $14.00

C. $45.50

D. $171.50

34. Chakan worked at the warehouse after school. He earned $9.25 per hour stacking boxes. Which equation correctly relates Chakan's total earnings, d, to the number of hours he worked, h?

A. $d = 9.25h$

B. $h = 9.25d$

C. $d = \frac{9.25}{h}$

D. $h = \frac{9.25}{d}$

Easter Break Homework _Due Mon 4/29

35. The Frenchtown Roller Rink charges a $5 entrance fee and an hourly rate for roller skating. The total cost for roller skating depends on the number of hours a person skates. The table below represents the total cost of skating for different numbers of hours.

ROLLER SKATING COST

Number of Hours (h)	Total Cost in Dollars (c)
0	5
1	8
2	11
3	14
4	17

Which equation represents the relationship between the cost, c, and the number of hours, h?
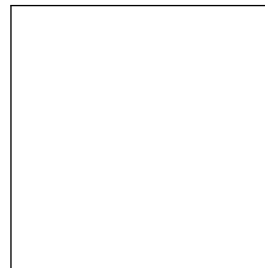
A. $c = 8h$ B. $c = 5h + 3$

C. $c = 2h + 7$ D. $c = 3h + 5$

36. Expressions *A*, *B*, and *C* are shown below.

$$\begin{array}{ccc} A & B & C \\ 20^2 - 18^2 & 8(4^2) + 2^4 & 15^2 - 3^4 \end{array}$$

Which expression or expressions have the same value as 12^2?

37. A square with one side length represented by an expression is shown below.

$$6(3x + 8) + 32 + 12x$$

Use the properties of operations to write three different equivalent expressions to represent the lengths of the other three sides of the square. One of your expressions should contain only two terms.

38. A carpenter built three bookcases, A, B, and C, to stand next to each other along a wall. The total length of the wall is 456 centimeters. The carpenter will build two more bookcases, D and E, along the same wall. These two bookcases will have equal widths. The widths of bookcases A, B, and C are shown in the table below.

WIDTHS OF BOOKCASES

Bookcase	Width (centimeters)
A	132
B	94
C	108
D	w
E	w

Write and solve an equation to determine w, the greatest possible width for bookcases D and E.

39. In which set do all of the values make the inequality $2x - 1 < 10$ true?

    A. {10, 15, 20}   B. {5, 7, 9}

    C. {4, 6, 8}   D. {2, 3, 4}

41. George has \$23 to spend on art supplies. He wants to buy markers, paper, and glue. If the total cost of the markers and paper is more than \$14, which inequality represents the dollar amount, p, George can spend on glue?

    A. $p < 9$ B. $p > 9$

    C. $p < 37$ D. $p > 37$

40. What is the value of the expression below?

$$2[3(4^2 + 1)] - 2^3$$

    A. 156   B. 110   C. 94   D. 48

      Easter Break Homework _Due Mon 4/29

42. A bookstore is selling books for $10 each. Which graph shows the relationship between the number of books, x, the store sold and the total amount of money, y, paid from the book sales?

A.

BOOK SALES

Number of Books Sold

B.

BOOK SALES

Number of Books Sold

C.

BOOK SALES

Number of Books Sold

D.

BOOK SALES

Number of Books Sold

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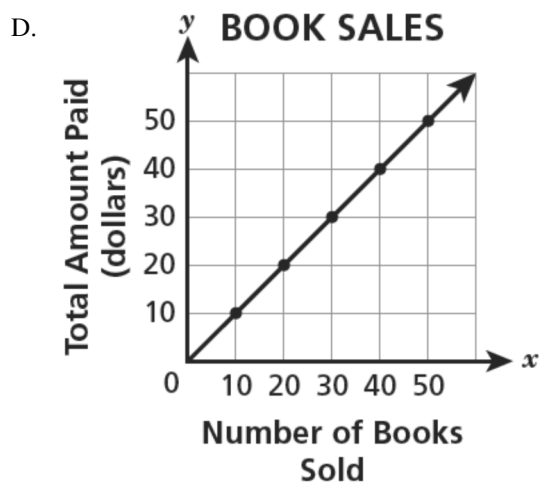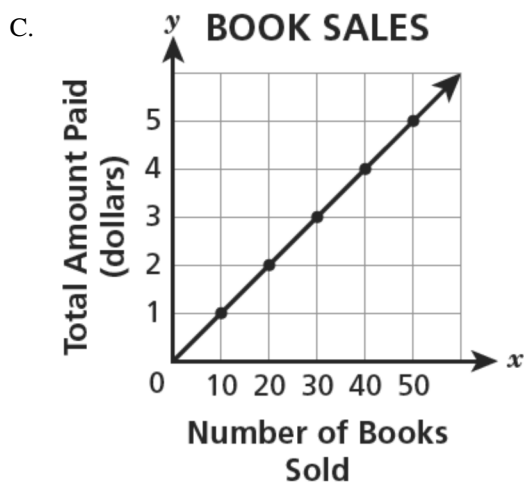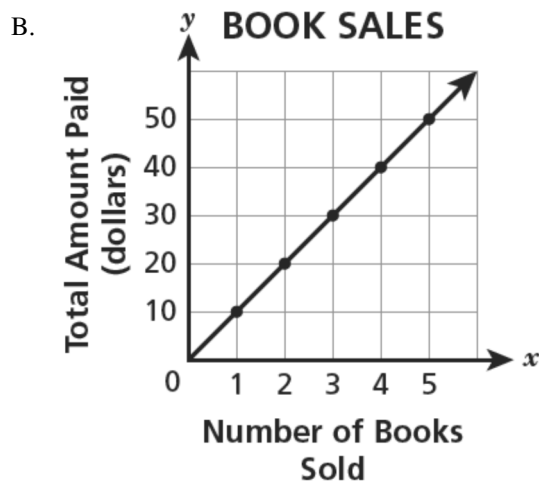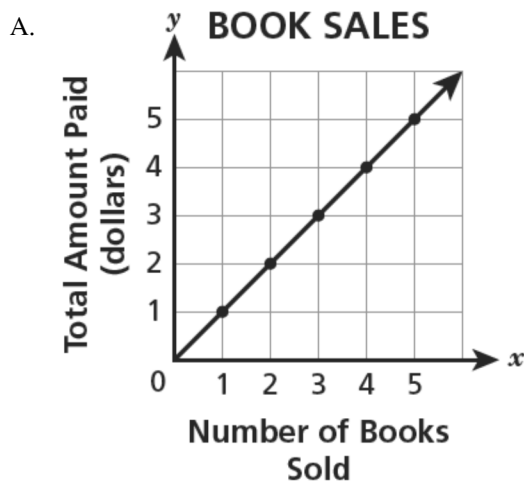
43. Which expression is equivalent to $5(6x + 3y)$?

    A. $11x + 3y$ B. $11x + 8y$

    C. $30x + 3y$ D. $30x + 15y$

44. The surface area, S, of a right rectangular prism with length l, width w, and height h can be found using the formula below.

$$S = 2(lw + wh + hl)$$

What is the surface area, in square inches, of a prism with a length of 12 inches, a width of 9 inches, and a height of 2 inches?

    A.   300   B.   258   C.   150   D.   92

Easter Break Homework _Due Mon 4/29

45. In 2010, Kim-Ly earned \$17.50 for 2 hours of work. Which table shows the relationship between the number of hours worked and Kim-Ly's total earnings, if her rate per hour is constant?

A.

Number of Hours	Total Earnings
1	\$17.50
2	\$35.00
3	\$52.50
4	\$70.00

B.

Number of Hours	Total Earnings
1	\$17.50
2	\$17.50
3	\$17.50
4	\$17.50

C.

Number of Hours	Total Earnings
1	\$16.50
2	\$17.50
3	\$18.50
4	\$19.50

D.

Number of Hours	Total Earnings
1	\$8.50
2	\$17.50
3	\$26.25
4	\$35.00

46. Which value or values for the variable c from the set below will make $5.6 + 0.4c \leq 6c$ true?

$$\{0,\ 0.875,\ 1,\ 2.5\}$$

A. only 2.5

B. 1 and 2.5

C. 0.875, 1, and 2.5

D. all values in the set

47. The two expressions below are equivalent.

$$y(2.5 + 7) + y - 2$$
$$10.5y - 2$$

Which statement *best* explains why the expressions are equivalent?

A. The expressions have the same value for any value of y.

B. The expressions have the same value for only whole number values of y.

C. The expressions have the same value only when y is an odd number.

D. The expressions have the same value only when y is an even number.

Easter Break Homework _Due Mon 4/29

48. A sandwich shop sells sandwiches for $5.95 each, including tax. The shop received a total of $71.40 from the sales of sandwiches one afternoon. Which equation can be used to determine the number of sandwiches, x, sold by the sandwich shop that afternoon?

   A. $5.95 + x = 71.40$ B. $5.95 \div 71.40 = x$

   C. $5.95x = 71.40$ D. $5.95 \div x = 71.40$

49. The formula below is used to convert a temperature in degrees Celsius, C, to a temperature in degrees Fahrenheit, F.

$$F = 1.8C + 32$$

   The high temperature in a mountain city was $15°C$. What was the high temperature in degrees Fahrenheit?

50. It is recommended that one fire extinguisher be available for every 6,000 square feet in a building. Write and solve an equation to determine x, the number of fire extinguishers needed for a building that has 135,000 square feet.

51. The area of Brian's rectangular garden, in square feet, can be found by using the expression $6(2x + 5y)$. Use the distributive property to write an equivalent expression for the area of Brian's garden.

   Use your equivalent expression to find the area of Brian's garden, in square feet, if $x = 3$ and $y = 4$.

52. A hotel has a number of meeting rooms, m, available for events. Each meeting room has 325 chairs. Write an equation to represent c, the total number of chairs, in all of the meeting rooms at the hotel.

   If $m = 7$, use your equation to find the total number of chairs in all of the meeting rooms at the hotel.

53. What is the value of the expression below?

$$3^4 + 9$$

   A. 21   B. 39   C. 43   D. 90

54. Paul bought a package of 6 spiral notebooks for a total cost of $13.50. Which equation represents p, the cost, in dollars, of each notebook?

   A. $p = 13.50 - 6$ B. $p = 13.50 \times 6$

   C. $p = 13.50 + 6$ D. $p = 13.50 \div 6$

55. The set of numbers 1, 7, 11, and 36 contains values for m. What value of m makes the equation below true?

$$4m + 8 = 36$$

   A. 1   B. 7   C. 11   D. 36

56. Which expression is equivalent to $16a + 24b$?

    A. $4(4a + 20b)$ B. $8(2a + 3b)$

    C. $4a(4 + 6b)$ D. $8ab(2 + 3)$

57. Nadia bought 5 tickets to attend a spaghetti supper fundraiser at her school. The equation $5x = 32.50$ can be used to find x, the cost of each ticket in dollars. Which equation represents the cost of each ticket?

    A. $x = \frac{32.50}{5}$ B. $x = 32.50(5)$

    C. $x = 32.50 - 5$ D. $x = 32.50 + 5$

58. Which equation is true when $n = 4$?

    A. $2n = 6$ B. $n + 3 = 7$

    C. $9 - n = 13$ D. $\frac{n}{12} = 3$

59. Which expression is equivalent to $5(d + 1)$?

    A. $5d + 5$ B. $5d + 1$

    C. $d + 5$ D. $d + 6$

60. Which expression is equivalent to $8x - 2y + x + x$?

    A. $4x$ B. $8x$

    C. $6x - 2y$ D. $10x - 2y$

61. Which situation can be represented by the expression $1.3x$?

    A. the total cost of an item that is x dollars more than $1.30

    B. the area of a rectangle with side lengths 1.3 and x

    C. the amount of change when $1.30 is used to pay for an item costing x dollars

    D. the number of square feet in each lot when 1.3 acres is partitioned into x equal sections

62. Ms. Peterson wrote the expression below on the chalkboard for her class. She asked the students to write an equivalent expression using no more than one set of parentheses.

    $$4(3x + 5y + 2z) + 3(x - z)$$

    - Tom wrote $12x + 20y + 8z$
    - Jenna wrote $5(3x + 4y + z)$
    - Chris wrote $15x + 20y - 5z$

    Which, if any, of the three students wrote an expression that is equivalent to Ms. Peterson's expression?

63. A train was traveling at a constant speed. The table below shows the distance, in miles, the train traveled for the first 4 hours.

TRAIN TRIP

| Time (hours)	Distance (miles)
1	95
2	190
3	285
4	380

Write an equation to represent the relationship between t, the time, and d, the total distance traveled by the train.

On the grid below, draw a graph of the relationship between t and d for a trip that lasted from 0 to 7 hours.
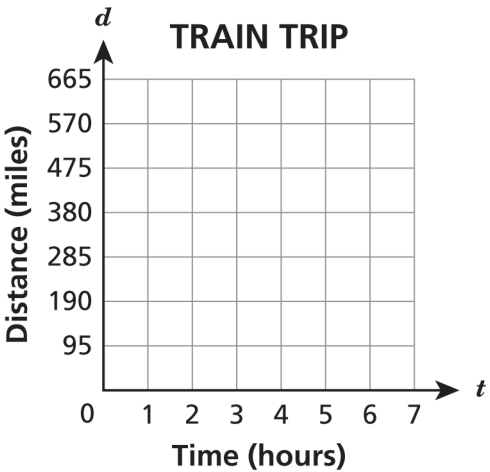
If the train was traveling nonstop, how many miles would it travel in 5.5 hours?

64. What is the x-coordinate of point P on the coordinate grid?
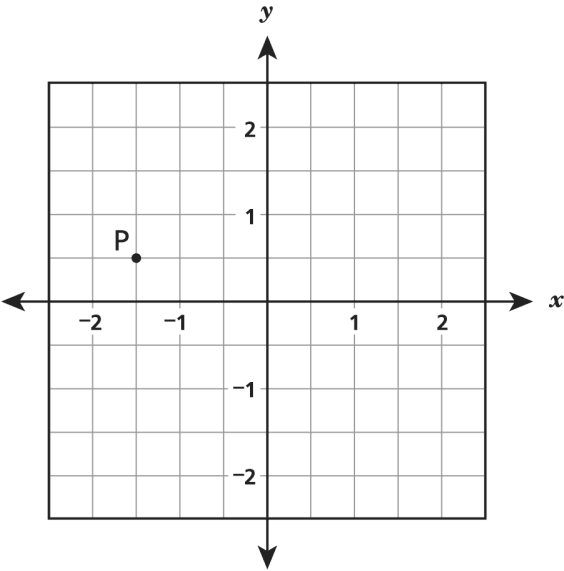
A. $-1\frac{1}{2}$ B. $-\frac{1}{2}$ C. $\frac{1}{2}$ D. $1\frac{1}{2}$

65. What is the value of $\frac{5}{6} \div \frac{3}{7}$?

A. $\frac{15}{42}$ B. $\frac{18}{35}$ C. $\frac{35}{18}$ D. $\frac{42}{15}$

66. What is the greatest common factor of 56 and 92?

A. 2   B. 4   C. 7   D. 8

67. Keith wants to plot −8 and −9 on a number line. Which statement is true?

  A. Keith should plot −8 to the left of −9 because −8 < −9.

  B. Keith should plot −8 to the left of −9 because −8 > −9.

  C. Keith should plot −9 to the left of −8 because −9 < −8.

  D. Keith should plot −9 to the left of −8 because −9 > −8.

68. The endpoints of a line segment can be represented on a coordinate grid by the points $A(−4, 1)$ and $C(−4, −3)$. Graph and label each of the endpoints of the line segment on the coordinate grid below.
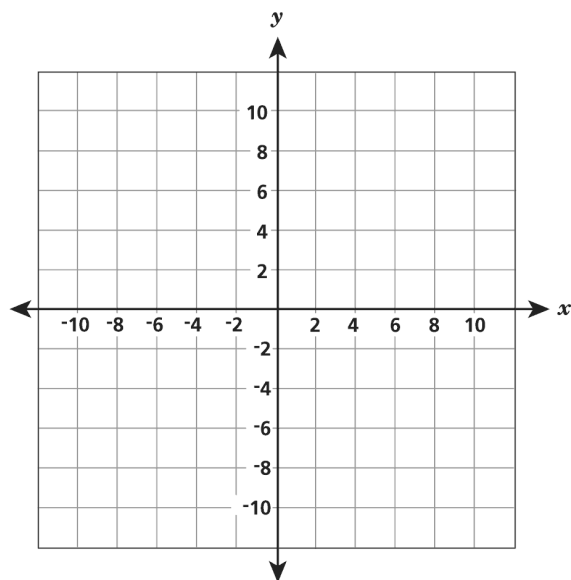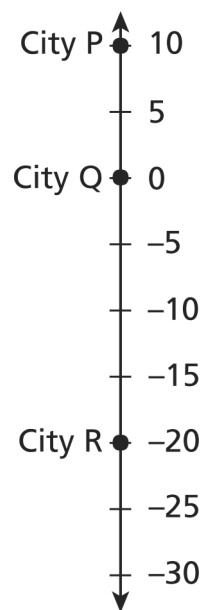

What is the distance, in units, between point A and point C?

69. What is the greatest common factor of 36 and 90?

  A. 6   B. 18   C. 36   D. 180

70. The elevations, in feet, of three cities are marked on the number line shown below.

The point O on the number line represents sea level. Which statement must be true?

  A. City P and City Q are above sea level.

  B. City Q and City R are below sea level.

  C. City P is above sea level and City Q is below sea level.

  D. City P is above sea level and City R is below sea level.

71. Carol has $1\frac{5}{8}$ cups of yogurt to make smoothies. Each smoothie uses $\frac{1}{3}$ cup of yogurt.

   What is the maximum number of smoothies that Carol can make with the yogurt?

   A. 1   B. 4   C. 5   D. 7

72. An art teacher has a total of $\frac{7}{8}$ pound of clay. The teacher puts $\frac{1}{16}$ pound of clay at each work station. The teacher sets up an equal number of work stations in each of 2 classrooms. How many work stations does the teacher set up in each of the classrooms?

73. Point W is located at $(-2, 3)$ on a coordinate plane. Point W is reflected over the x-axis to create point W'. Point W' is then reflected over the y-axis to create point W". What ordered pair describes the location of point W"?

   Explain how you determined your answer.

74. The length of a rectangular parking lot at the airport is $\frac{2}{3}$ mile. If the area is $\frac{1}{2}$ square mile, what is the width of the parking lot?

   A. $\frac{1}{3}$ mile   B. $\frac{3}{4}$ mile

   C. $1\frac{1}{6}$ mile   D. $1\frac{1}{3}$ mile

75. The coordinates of point A are $(-6, 4)$. The coordinates of point B are $(3, 4)$. Which expression represents the distance, in units, between points A and B?

   A. $|-6| + |3|$ B. $|3| - |-6|$

   C. $|-6| + |-4|$ D. $|4| - |-6|$

76. Point G is the point $(3, -1)$.
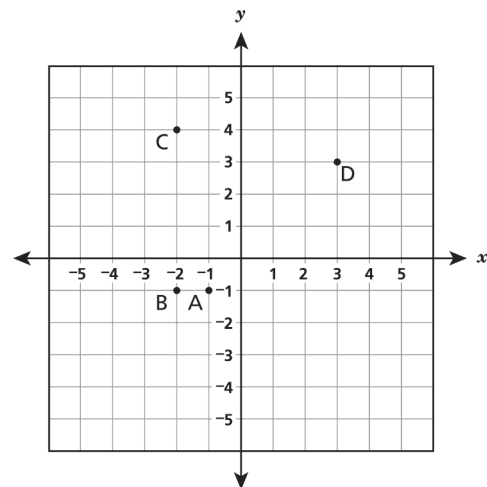
   Which point is 5 units from point G?

   A. point A   B. point B

   C. point C   D. point D

77. The area of a rectangular park is $\frac{3}{5}$ square mile. The length of the park is $\frac{7}{8}$ mile. What is the width of the park?

78. An art teacher had $\frac{2}{3}$ gallon of paint to pour into containers. If he poured $\frac{1}{8}$ gallon of paint into each container until he ran out of paint, how many containers had paint in them, including the one that was partially filled?
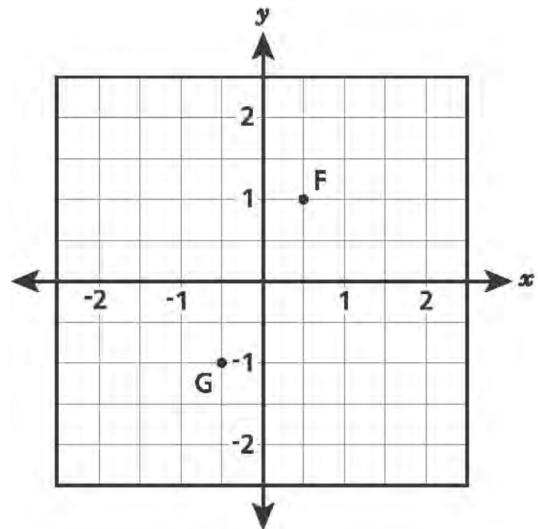
A. 1   B. 3   C. 5   D. 6

79. The coordinates of point F are $(1, 0.5)$ and the coordinates of point G are $(-1, -0.5)$. Which coordinate plane below correctly shows the locations of points F and G?
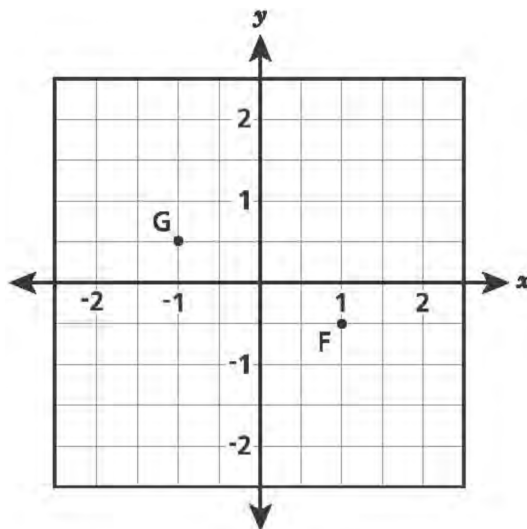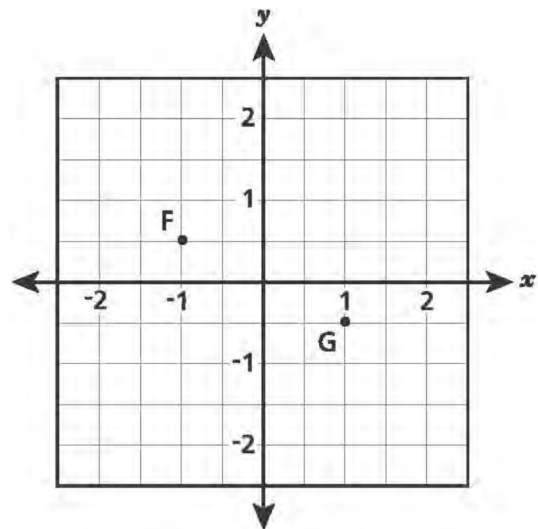
A.

B.

C.

D.

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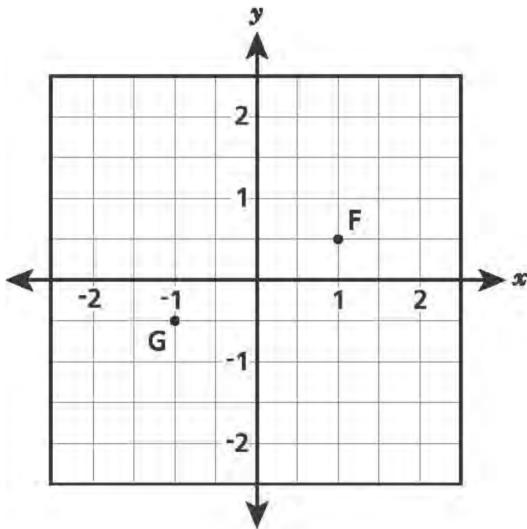
80. Point A and point B are placed on a number line. Point A is located at -20 and point B is 5 less than point A. Which statement about point B is true?

A. It is located at -25 and is to the right of point A on the number line.

B. It is located at -15 and is to the right of point A on the number line.

C. It is located at -25 and is to the left of point A on the number line.

D. It is located at -15 and is to the left of point A on the number line.

81. Maddy had a piece of ribbon that was $3\frac{1}{2}$ yards long. She used this ribbon to make bows. Each bow was made from a piece of the ribbon that was $\frac{3}{4}$ yard long. This situation can be represented by the equation $3\frac{1}{2} \div \frac{3}{4} = 4\frac{2}{3}$. Which statement best describes what the quotient $4\frac{2}{3}$ represents in the situation above?

A. Maddy had bows that were each $4\frac{2}{3}$ yards long.

B. Maddy had $4\frac{2}{3}$ yards of ribbon left after making the bows.

C. Maddy made 4 bows from the piece of ribbon and had $\frac{2}{3}$ of a yard left.

D. Maddy made 4 bows from the piece of ribbon and had enough left for $\frac{2}{3}$ of a bow.

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82. The coordinate grid below represents a town. Curtis's house is at $(-4, -6)$ and Jean's house is at $(-4, 3)$. Plot the points where Curtis's house and Jean's house are located.
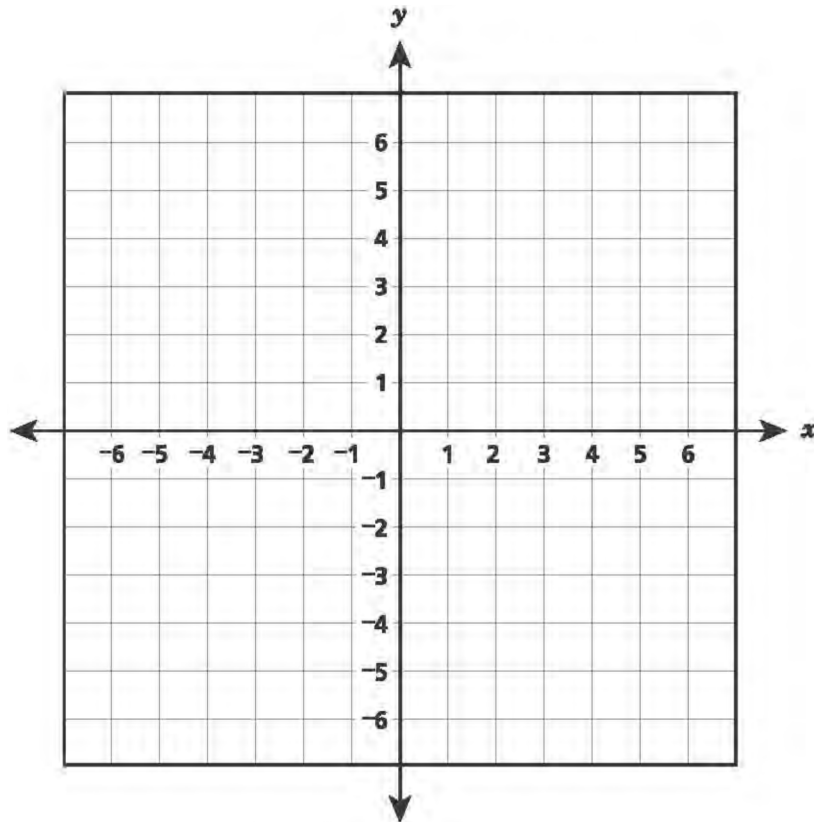

Each unit on the grid represents 1 mile. If Curtis can ride his bike at a constant rate of 12 miles per hour, how many minutes would it take Curtis to ride from his house to Jean's house?

83. A park planner is designing a dog park. He wants to use a metal fence to enclose a kennel at the dog park. The vertices of the fence are shown below. The units on the coordinate plane are yards.

- Point A $(4, -4)$
- Point B $(-4, -4)$
- Point C $(-4, 3)$
- Point D $(1, 3)$
- Point E $(1, -1)$
- Point F $(4, -1)$

The park planner wants to add a gate between points A and F. He will not put metal fencing on that side. What is the total number of yards of metal fencing that will be needed for the kennel at the dog park?

You may use the grid below to help you solve the problem.
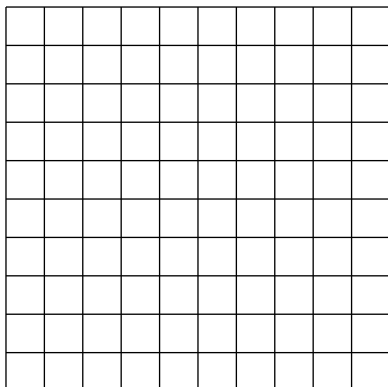
84. Jason will use a $3\frac{1}{3}$-gallon pitcher to fill an empty $\frac{3}{4}$-gallon water jug. How much water will he need in order to completely fill the water jug?

A. between 1 and 2 full pitchers

B. between 2 and 3 full pitchers

C. about $\frac{1}{2}$ of a full pitcher

D. about $\frac{1}{4}$ of a full pitcher

85. What is the least common multiple of 4 and 10?

A. 14   B. 20   C. 40   D. 60

86. The inequality below compares two rational numbers.

$$-\frac{8}{18} > -\frac{17}{27}$$

If the two numbers were plotted as values on a horizontal number line, which statement would be true?

A. Both numbers lie to the right of 0, and $-\frac{8}{18}$ lies to the left of $-\frac{17}{27}$.

B. Both numbers lie to the left of 0, and $-\frac{8}{18}$ lies to the left of $-\frac{17}{27}$.

C. Both numbers lie to the right of 0, and $-\frac{8}{18}$ lies to the right of $-\frac{17}{27}$.

D. Both numbers lie to the left of 0, and $-\frac{8}{18}$ lies to the right of $-\frac{17}{27}$.

87. Two whole numbers have a least common multiple of 60.

- Each number is less than or equal to 12.
- The greatest common factor of the two numbers is 2.

What are the two numbers?

A. 6 and 10   B. 5 and 12

C. 10 and 12   D. 12 and 15

88. The table below shows the elevations at which different artifacts were found during an archeological dig.

Artifact	Elevation
arrow head	15 feet above sea level
bone	721 feet above sea level
clay bowl	sea level
necklace	462 feet above sea level
woven basket	1,200 feet below sea level

Write the name of each artifact and the elevation at which each artifact was found using a positive integer, zero, or negative integer.

Explain how you determined if an elevation required a positive integer, zero, or negative integer.

89. Machines S and T were both cleaned this week.

- Machine S is cleaned every 12 weeks.
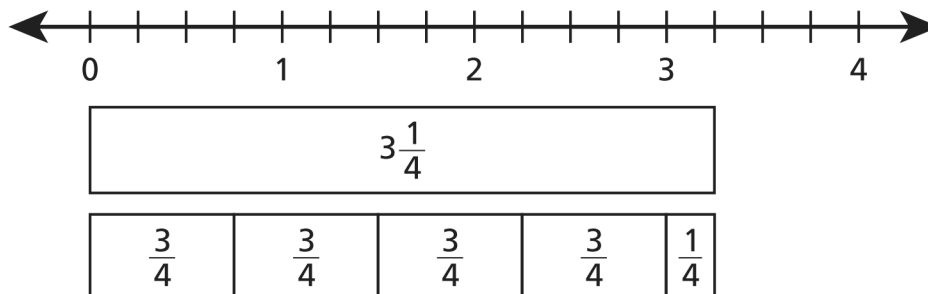- Machine T is cleaned every 8 weeks.

What is the *fewest* number of weeks that will pass before both machines are cleaned again in the same week?

A. 16   B. 24   C. 36   D. 48

90. The area of a rectangular city park is $\frac{25}{54}$ square miles. The length of the park is $\frac{5}{9}$ mile. What is the width, in miles, of the park?

A. $\frac{4}{9}$ B. $\frac{5}{6}$ C. $1\frac{1}{54}$ D. $1\frac{1}{5}$

91. Which expression is modeled by the diagram below?

A. $3\frac{1}{4} \div \frac{3}{4}$ B. $\frac{3}{4} \div 3\frac{1}{4}$ C. $3 \div \frac{1}{4}$ D. $\frac{1}{4} \div 3$

92. Timothy went to a baseball game. After the game, he wanted to ride the bus home. The red line and the blue line buses both stop at the stadium.

- A red line and a blue line bus both left the stadium at 4:00 p.m.
- Red line buses were scheduled to leave the stadium every 6 minutes.
- Blue line buses were scheduled to leave the stadium every 8 minutes.

If the buses run on schedule, when is the next time a red line and a blue line bus will leave together?

93. A group of students organized a car wash to raise money for a local charity. The students charged $5.00 for each car they washed. In 3 hours, they washed 12 cars. At that rate, how much money could they earn from washing cars for eight hours?

A. $40.00   B. $60.00

C. $85.00   D. $160.00

94. A company paid $48 for 2 cases of printer paper. Each case contained 12 packages of paper. Next month the company's office manager needs to order 180 packages of the same paper. If the price per package does not change, what would be the total cost of next month's order?

A. $90   B. $360   C. $720   D. $1,140

95. At a concert, 20% of the audience members were teenagers. If the number of teenagers at the concert was 360, what was the total number of audience members?

A. 432   B. 450   C. 1,800   D. 7,200

96. A leaky faucet is losing water and is filling a 5-gallon bucket every 20 hours. At that rate, how many gallons of water will the faucet leak in 48 hours?

97. There are 230 calories in 4 ounces of a type of ice cream. How many calories are in 6 ounces of that ice cream?

A. 232   B. 236   C. 345   D. 460

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98. The area of an airplane's wings is related to the airplane's lifting force, which holds the airplane in the air. The table below lists several wing areas and the corresponding lifting forces.

AIRPLANE LIFTING FORCE

Area of Wings (square feet)	Lifting Force (pounds)
125	1,875
150	2,250
175	2,625
250	3,750
x	5,625
420	y

The ratio of lifting force to area is equivalent for all pairs in the table. What are the values of x and y?

A. $x = 375$ square feet and $y = 7,500$ pounds

B. $x = 335$ square feet and $y = 7,500$ pounds

C. $x = 375$ square feet and $y = 6,300$ pounds

D. $x = 335$ square feet and $y = 6,300$ pounds

99. Residents of a small city voted on whether to allow a developer to build a shopping center. The number of votes in favor of the shopping center was 4,400. The number of votes against the shopping center was 17,600. What percent of the voters were *in favor* of building the shopping center?

A. 20%   B. 25%   C. 40%   D. 44%

100. The table below lists four masses and their corresponding approximate weights on Earth.

MASSES AND CORRESPONDING WEIGHTS

Mass (kilograms)	Weight (Newtons)
20	196
50	490
x	1078
130	1274
140	1372

The ratio of weight to mass is constant. Which statement describes the ratio of weight to mass and the value of x in the table?

A. The ratio is $\frac{98}{10}$; $x = 90$

B. The ratio is $\frac{98}{10}$; $x = 110$

C. The ratio is $\frac{10}{98}$; $x = 90$

D. The ratio is $\frac{10}{98}$; $x = 110$

101. Darnell's car used 8 gallons of gasoline to travel 340 miles. After a mechanic worked on the car, it used 7 gallons of gasoline to travel 350 miles. If the price of gasoline was approximately $4.00 per gallon, how much less, to the nearest cent per mile, did it cost to run the car after the mechanic worked on it?

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102. A scientist studied the migration patterns of two types of whales.

- The humpback whales traveled 2,240 miles in 28 days.
- The gray whales traveled 2,368 miles in 32 days.

If the humpback whales had traveled at the same rate for 32 days, how many more miles would they have traveled than the gray whales?

A. 128   B. 192   C. 280   D. 408

103. Kim rode her bicycle 135 miles in 9 weeks, riding the same distance each week. Eric rode his bicycle 102 miles in 6 weeks, riding the same distance each week. Which statement correctly compares the number of miles per week they rode?

A. Eric rode 2 more miles per week than Kim rode.

B. Kim rode 3 more miles per week than Eric rode.

C. Kim rode 11 more miles per week than Eric rode.

D. Eric rode 17 more miles per week than Kim rode.

104. Dana and Monique are dog groomers. Dana's workday is 10 hours and Monique's workday is 8 hours. Dana and Monique each work 40 hours per week.

On Monday, Dana groomed 15 dogs in 10 hours and Monique groomed 10 dogs in 8 hours. They each earn $12.75 for each dog groomed. Assuming that for the rest of the week Dana and Monique groom the same number of dogs per workday as they did on Monday, what will be the difference between their weekly earnings?

105. A seamstress needs to cut 15-inch pieces of ribbon from a roll of ribbon that is 9 feet in length. What is the greatest number of 15-inch pieces the seamstress can cut from 5 of these rolls of ribbon?

106. A company sells cereal in two different-sized boxes. The smaller box has the dimensions shown below.

Smaller Cereal Box
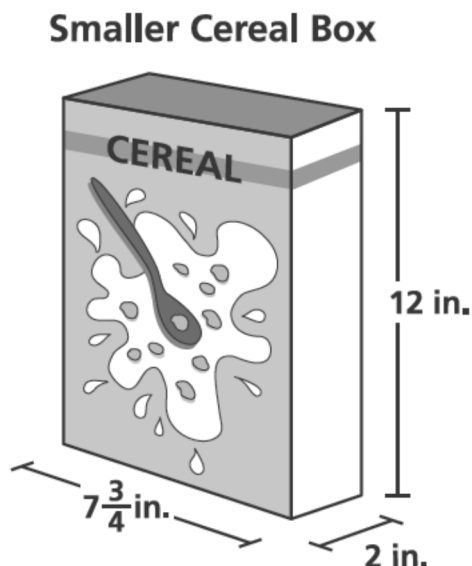
The height of the smaller box is 80% of the height of the larger box, while the other two dimensions are the same for both boxes. What is the difference in the volumes of the two boxes?

107. Jimmy and his family are on their way to visit some family friends who live 780 miles away from them. Based on the route they chose, they expect to complete their trip in three days. The distances and average speeds for the first two days driven are shown below.

- First day: 4 hours at an average speed of 60 miles per hour

- Second day: 6 hours at an average speed of 65 miles per hour

If the average speed on the third day is 60 miles per hour, how many more hours will it take for them to reach their family friends' home?

108. Felicity babysat 2 hours each night for 10 nights. She earned a total of $180 babysitting. Felicity wants to calculate her hourly rate. How much did Felicity earn per hour babysitting?

A. $9   B. $15   C. $18   D. $20

109. The table below shows how much money a grocery store receives for selling different amounts of asparagus.

ASPARAGUS SALES

Number of Pounds	Total Sales
4	$10
6	$15
8	$20
10	?
12	?

If the unit rate is constant, what are the total sales for 12 pounds of asparagus?

A. $22.50   B. $25.00

C. $30.00   D. $32.50

110. Sebastian swam laps every day in the community swimming pool. He swam 45 minutes each day, 5 days each week, for 12 weeks. In that time, he swam 1,800 laps. What was his average rate in laps per hour?

111. Mr. Anderson drove 168 miles in $3\frac{1}{2}$ hours. He then drove the next $2\frac{1}{4}$ hours at a rate of 5 miles an hour faster than the first rate.

How many miles did Mr. Anderson drive during the $5\frac{3}{4}$ hours?

112. The right rectangular prism shown below is made of equal-sized cubes. The side length of each cube is $2\frac{1}{2}$ inches.
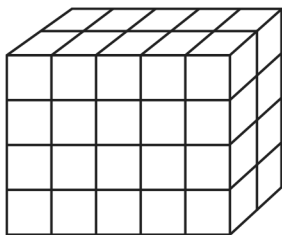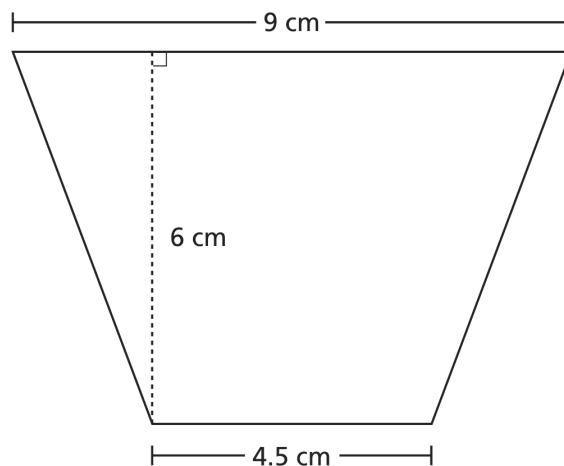

What is the volume, in cubic inches, of the right rectangular prism?

A. 50   B. 100   C. 250   D. 625

113. A shape is made of 12 right triangles of equal size. Each right triangle has a base of 4 cm and a height of 5 cm. What is the total area, in square centimeters, of the shape?

A. 10   B. 60   C. 120   D. 240

114. What is the area of the isosceles trapezoid shown?

A. $27\,\text{cm}^2$ B. $33.8\,\text{cm}^2$

C. $40.5\,\text{cm}^2$ D. $54\,\text{cm}^2$

115. Bronson is using a coordinate plane to design a rectangular swimming pool. He will plot points on the coordinate plane to mark the vertices of the rectangular pool bottom. If Bronson plots the first three points at $(5, 3)$, $(5, 13)$, and $(30, 13)$, what would be the coordinates of the fourth point?

You may use the grid below to help you solve the problem.
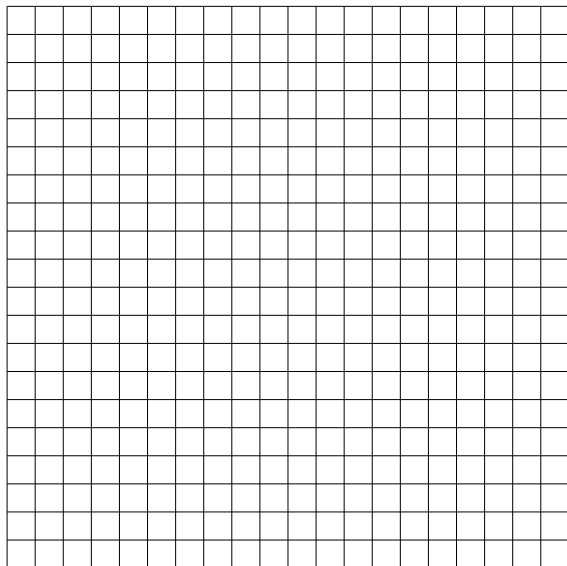
A. $(30, 5)$ B. $(20, 13)$

C. $(5, 28)$ D. $(30, 3)$

116. A triangle has vertices on a coordinate grid at points $J(-1, 5)$, $K(4, 5)$, and $L(4, -2)$. What is the length, in units, of $\overline{KL}$?

A. 3   B. 7   C. 8   D. 11

117. Steve ordered plastic cases for storing his baseball cards. Each case has a length of 12 centimeters, a width of 6.5 centimeters, and a height of 1.25 centimeters. What is the volume, in cubic centimeters, of one baseball card case?

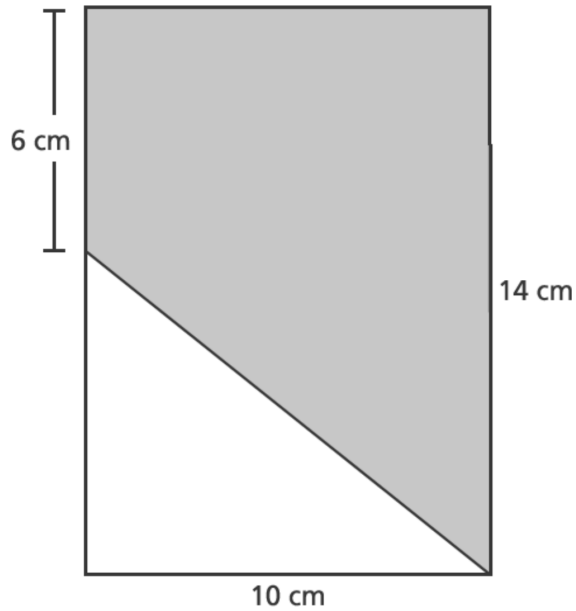A. 39.5   B. 97.5

C. 118.5   D. 202.25

118. A net of a triangular prism is shown below.
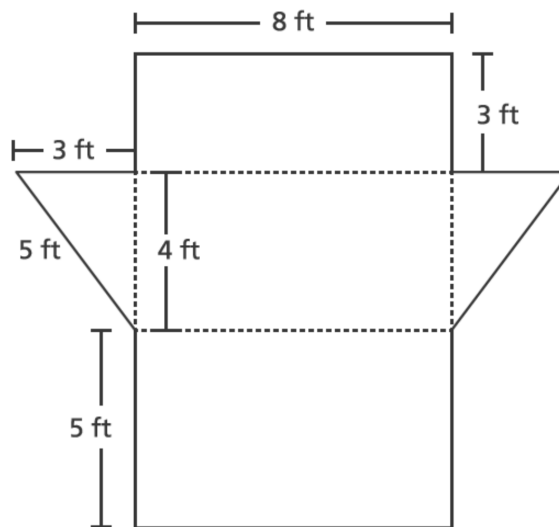
What is the surface area, in square feet, of the triangular prism?

A. 44   B. 96   C. 108   D. 120

119. What is the area, in square centimeters, of the shaded part of the rectangle shown below?


A. 20   B. 60   C. 100   D. 140

120. A right rectangular prism has a length of $2\frac{1}{2}$ feet, a width of 3 feet, and a height of $1\frac{1}{2}$ feet. Unit cubes with side lengths of $\frac{1}{2}$ foot are added to completely fill the prism with no space remaining. What is the volume, in cubic feet, of the right rectangular prism?

How many $\frac{1}{2}$-foot unit cubes can be added to fill the prism completely? Use what you know about unit cubes or the side lengths of prisms to show your work or explain your answer.

121. Graph the polygon *ABCDEF*, which has vertices at the following coordinates, on the coordinate grid below.

$$A(-4, 7), \ B(6, 7), \ C(6, -2), \ D(-8, -2), \ E(-8, 3), \ F(-4, 3)$$
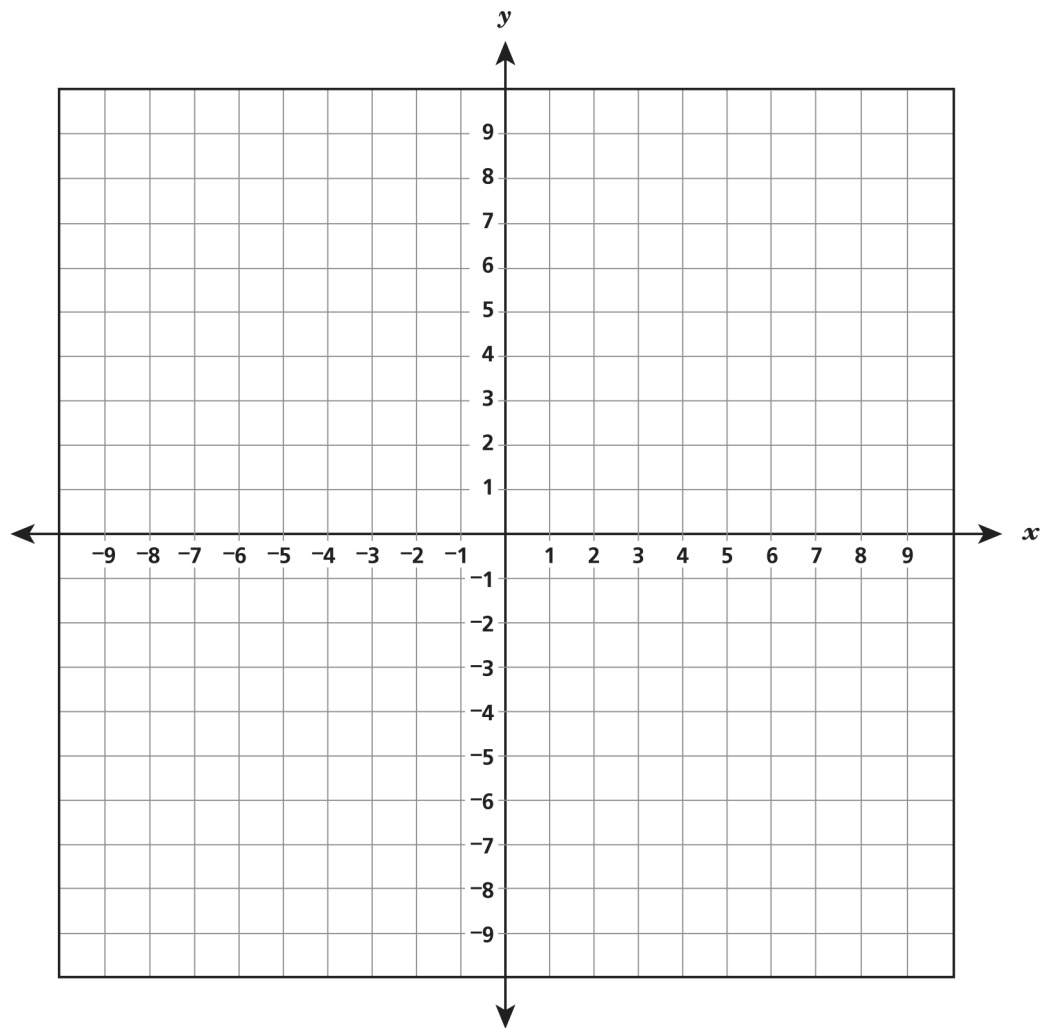
What is the perimeter of polygon *ABCDEF*?

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122. A box in the shape of a right rectangular prism has a length of 8.5 inches, a width of 4.5 inches, and a height of 3.75 inches. What is the volume, in cubic inches, of the box? Do not round your answer.

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