Directions: Answer the following question(s).

1 | There are 21 boys and 24 girls in Mr. Wong's class. He wants to group all students so that each group has the same number of boys and girls as the other groups.

What is the greatest number of groups Mr. Wong can have?

How many girls are in each group?

How many boys are in each group?

A.   3 groups
B.   4 groups
C.   7 groups
D.   8 groups
E.   3 boys
F.   7 boys
G.   8 boys
H.   3 girls
I.   7 girls
J.   8 girls

2 | Sally makes snack bags that contain a box of raisins and a granola bar. The granola bar comes 8 to a package and each package of raisins come with 20 boxes.

What is the least number of boxes of raisins and granola bars she can have in order to have the same number of boxes of raisins and number of granola bars with none left over?

How many packages of raisins will she need?

A.   4 boxes of raisin and 4 granola bars
B.   20 boxes of raisins and 20 granola bars
C.   40 boxes of raisins and 40 granola bars
D.   60 boxes of raisins and 60 granola bars
E.   2 packages of raisins
F.   3 packages of raisins
G.   4 packages of raisins
H.   40 packages of raisins

3 | A tree grows one and three-fourth feet per year. How long will it take the tree to grow from a height of18 ¾ feet to a height of30 ½ feet?

Enter answer as a fraction.

[   ]

4 | Point A and Point B are 6 units apart.

The coordinates of Point A are (3, -4).

The x-coordinate for Point B is 3.

What are the possible coordinates for Point B?

A.   (9, -4)
B.   (-3, -4)
C.   (3, -10)
D.   (3, 3)
E.   (3, 2)
F.   (-4, 3)

5 | Given the coordinate (3 , -4) What quadrant is it in?

What are the coordinates of the point reflected across the x-axis?

A.   Quadrant I
B.   Quadrant II
C.   Quadrant III
D.   Quadrant IV
E.   (3, -4)
F.   (3, 4)
G.   (-3, 4)
H.   (-3, -4)

Directions: Answer the following question(s).

6 Audrey planted cabbage, squash, and carrots on her 400-acre farm.

She planted half the farm with carrots and 27% with cabbage.

How many acres did she plant cabbage?

How many acres did she plant with squash?

A. 200 acres of cabbage

B. 27 acres of cabbage

C. 108 acres of cabbage

D. 200 acres of squash

E. 108 acres of squash

F. 92 acres of squash

G. 73 acres of squash

7 There were 240 people at the concert. If 60% of the seats were filled, how many seats were in the auditorium?

Enter just the number of seats.

[ ]

8 Jeremy rides a bicycle for 3.3 kilometers to school.

Luke walks 1750 meters to school.

How much farther does Jeremy have to ride his bike to school in meters?

Enter just the number.

[ ]

9 Use exponents to rewrite the expression.

$7 \cdot 7 \cdot 3 \cdot 3 \cdot 3 \cdot 3$

A. $49 \cdot 81$

B. $2^7 \cdot 4^3$

C. $7^2 \cdot 3^4$

D. 3961

E. None of the above

10 A plumber charges $25 for transportation and $85 per hour for repairs.

Write an expression that can be used to find the cost in dollars for a repair that takes "h" hours.

How much would it cost, if the job took four hours to complete?

A. 25h + 85

B. 25 + 85

C. 85h + 25

D. $110

E. $185

F. $340

G. $365

11 In the expression 5x + y + -11.

What are the terms in the expression?

What are the coefficients?

What are the constants?

A. terms: 5, 0, -11

B. coefficients: 5, 0, -11

C. constants: 5, 0, -11

D. terms: 5x, y, -11

E. coefficients: 5x, y, -11

F. constants: 5x, y, -11

G. coefficients: 5, 1

H. constant: 5

I. constant: -11

J. constant: 1

12 Simplify the expression

5k – 2r + 5x – 8k + 2x + r.

A. 3k + 3r + 3x

B. -3k - 3r - 3x

C. -3k - r + 7x

D. 13k + 7x + 2

E. 13k + 7x - 2

Directions: Answer the following question(s).

13 | Solve the expression:

$9 + 6(6 - 2) \div 3$

[_____]

14 | Write the algebraic expression for "12 more than the product of 5 and k."

What would the value be for the expression is k = 3?

A. $12 + 5k$

B. $12 + k \div 5$

C. $12 + k - 5$

D. $5k + 12$

E. $5k - 12$

F.   27

G.   10

H.   3

15 | Use the distributive property.

Enter the number that makes the following equation true.

$6(5 + 7) = x + 42$

Find "x".

[_____]

16 | What property is represented below?

$3 + (x + 7) = (3 + x) + 7$

A.   Distributive Property

B.   Commutative Property

C.   Associative Property

D.   Additive Identity Property

E.   Multiplicative Identity Property

17 | Select the equation(s) that has m = 3 as a solution.

A. $24 \div m = 3$

B. $36 = 12m$

C. $13 - m = 10$

D. $10 = m + 8$

E. $5m = 15$

18 | Emily counted the candies she had in a jar.

She discovered that one-third of the candies were red.

If she had 48 red candies, in which equation does x represent the total number of candies in the jar?

A. $1/2x = 48$

B. $1/3 (48) = x$

C. $48 + 1/3 = x$

D. $48x = 48$

E. $1/3 \cdot x = 48$

F.   none of the above

19 | Which statements are true below?

A. $z + z + z = z^3$

B. $2j + 5 - j = j + 5$

C. $x \cdot x = 2x$

D. $3(2x + 5) = 6x + 15$

E. $h^3 = h \cdot h \cdot h$

F. $r + r = 2r$

20 | Which of the following values for Y and S make the statement Y = S true? Select all that apply.

A. $Y = 13 + 5,\ S = -5 + 13$

B. $Y = 15 - 7,\ S = 13 + -5$

C. $Y = 8 - -2,\ S = 5 + 5$

D. $Y = -6 + -2,\ S = 3 - 11$

E. $Y = 0 + 4,\ S = -2 + -2$

Directions: Answer the following question(s).

21 Juan is saving money for a new mountain bike.

The amount (a) Juan needs to save is less than $50.25.
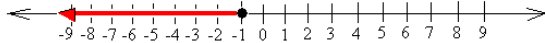
Which inequality represents amount Juan needs to save?

A.   a < $50.25

B.   a > $50.25

C.   a = $50.25

D.   a $50.25

E.   a $50.25

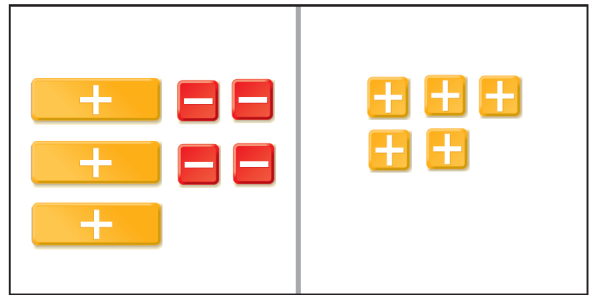**22** What values of "y" make the inequality true?

14 - y > 2

A.   20

B.   -20

C.   10

D.   0

E.   -5

23 What inequalitity does this graph represent?

A.   x > 1

B.   x > -1

C.   x < 1

D.   x < -1

E.   x   1

F.   x   -1

G.   x   1

H.   x   -1

24 What equation does this model represent?

A.   x = 9

B.   x = 5

C.   7x = 5

D.   3x -4 = 5

E.   3x + 4 = 5

F.   none of the above

25 Solve the following equation.

$$\frac{2}{3}x = \frac{4}{5}$$

A. $\dfrac{8}{15}$

B. $\dfrac{10}{12}$

C. $1\dfrac{1}{5}$

D. $\dfrac{6}{8}$

E.   none of the above

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Directions: Answer the following question(s).

26 | Sophia has a doll collection with 18 dolls. She decides to sell "s" dolls to a museum and has "r" dolls remaining.

Write the equation for Sophia's doll collection.

What is the dependent and independent variables?

A. "s" is the independent variable
B. "r" is the independent variable
C. "s" is the dependent variable
D. "r" is the dependent variable
E. r = 18 + s
F. s = 18 + r
G. r = 18 - s
H. s = 18 - r

27 | Brayden is training for a marathon.

The table shows how the number of miles he runs depends on which week of training he is in.

How many miles will Brayden run in the 13th week?

Week, w	2	4	5	7
Miles, m	5	7	8	10

A. 13 miles
B. 26 miles
C. 19 miles
D. 16 miles
E. none of the above

28 | A coach is ordering soccer jerseys from a website. The jerseys cost $13 each, and there is a discount of $20 per order.

What is the equation that can be used to determine the total cost "y", in dollars, for "x" jerseys.

A. y = 13 + 20
B. y = 13x + 20
C. y = 20x + 13
D. y = 13x - 20
E. y = 20x - 13
F. none of the above

29 | Indicate which set of points, when graphed, would lie on the same line.

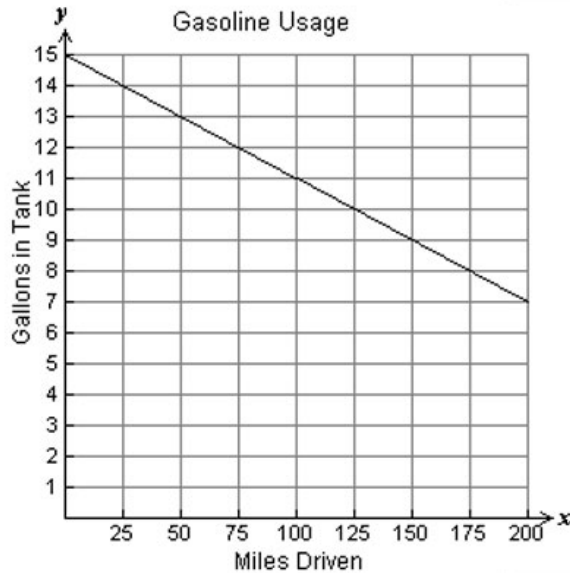Select all that apply.

A. (0, 0) , (5, 5), (10, 10)
B. (-1, 1), (1, 3), (2, 7)
C. (-2, -3), (-3, -5), (-4, -7)
D. (1, 6), (2, 4), (3, 2)
E. none of the set of points are correct

Directions: Answer the following question(s).

30 The graph represents the amount of gasoline in a gas tank while driving from Fresno to Bakersfield.

How much gas is left in the tank after 250 miles driven?

Gasoline Usage

A. 7 gallons

B. 6 gallons

C. 5 gallons

D. 4 gallons

E. 3 gallons

31 A taxicab company charges an initial fee of $10 and the $6.50 per mile for a ride.

Fill in the table below.

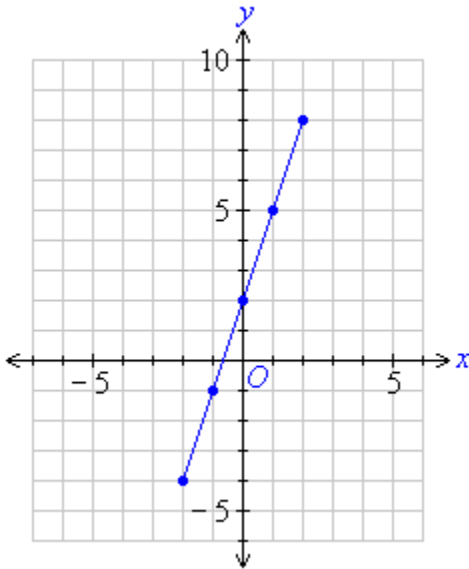What is the equation for the taxi cab with miles represented by "x" and total cost represented by "y"?

Input	Output
Miles (mi), x	Cost ($), y
2	23
4	36
6	?
8	62

A. $45

B. $39

C. $49

D. y = 10 + 6.5

E. y = 6.5x + 10

F. y = 10x + 6.5

Directions: Answer the following question(s).

32   What is the equation of the line from the graph
     below?

A.   y = x + 3

B.   y = 3x

C.   y = 3x + 2

D.   y = x + 2

E.   y = 4x