

Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Simplify.

1) $(3 - 7)^3 - |-4 - 5|^2$ 1) _____
 A) -145 B) -65 C) -17 D) 17

2) $7^3 - (-8)^2$ 2) _____
 A) -43 B) 407 C) 279 D) 37

3) $-\frac{4}{5} - \left(-\frac{7}{10}\right)$ 3) _____
 A) $-\frac{3}{10}$ B) $-\frac{11}{10}$ C) $-\frac{1}{10}$ D) $\frac{1}{10}$

Simplify.

4) $\frac{-2(5^2) - 5(9 - 4)}{-5(3 - 8) \div (-5)}$ 4) _____
 A) 15 B) 23 C) -23 D) -15

5) $\frac{\frac{-4}{9}}{\frac{-4}{15}}$ 5) _____
 A) $-\frac{3}{5}$ B) $-\frac{5}{3}$ C) $\frac{5}{3}$ D) $-\frac{16}{135}$

6) $|2(-2)| - |1 - 10|$ 6) _____
 A) -13 B) -5 C) 13 D) 5

$$7) \frac{|5(-4)| - |1 - 11|}{-16}$$

$$A) -\frac{15}{8}$$

$$B) -\frac{5}{8}$$

$$C) \frac{5}{8}$$

$$D) \frac{15}{8}$$

7) _____

Evaluate the expression for the given replacement values.

$$8) \frac{y - 8x}{5x - xz} \text{ when } x = -1, y = 3, \text{ and } z = -3.$$

$$A) \frac{5}{2}$$

$$B) -\frac{11}{8}$$

$$C) \frac{5}{8}$$

$$D) -\frac{21}{8}$$

8) _____

$$9) \frac{y - 3x}{2x - xz} \text{ when } x = -2, y = 4, \text{ and } z = -4.$$

$$A) -\frac{1}{2}$$

$$B) -\frac{2}{3}$$

$$C) -\frac{5}{6}$$

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

9) _____

Write the statement using mathematical symbols.

10) Sixty is seventeen subtracted from the product of six and y.

$$A) 60 = 17 - 6y$$

$$B) 60 = 6(y - 17)$$

$$C) 60 = 6y - 17$$

$$D) 60 = (6 - 17) \cdot y$$

10) _____

11) The square of the sum of x and fourteen, divided by three, is greater than -20.

$$A) \frac{x^2}{3} + 14 < -20$$

$$B) \left(\frac{x + 14}{3}\right)^2 > -20$$

$$C) \frac{(x + 14)^2}{3} > -20$$

$$D) \frac{x^2 + 14}{3} > -20$$

11) _____

12) Four times the difference of x and 16 is more than the reciprocal of 4.

$$A) \frac{x - 16}{4} \geq 4$$

$$B) 4(16 - x) \geq -4$$

$$C) 4(x - 16) > \frac{1}{4}$$

$$D) 4x - 16 > \frac{1}{4}$$

12) _____

13) The difference of twice x and 3 is less than or equal to 11.

$$A) 2x - 3 \leq 11$$

$$B) x - 2 \cdot 3 \geq 11$$

$$C) 3 - 2x \leq 11$$

$$D) 2x - 3 \geq 11$$

13) _____

Name the property illustrated by the statement.

14) $-3(x + 8) = -3x - 24$

A) commutative property of multiplication

B) associative property of multiplication

14) _____

C) distributive property

D) commutative property of addition

Simplify the expression.

15) $-6a - 2 - 12(a - 5)$

A) $18a + 58$

B) $18a + 3$

C) $-18a + 3$

D) $-18a + 58$

15) _____

16) $\frac{3}{4}x + \frac{1}{6} + \frac{1}{2}x + \frac{4}{5}$

A) $-\frac{1}{4}x + \frac{29}{30}$

B) $\frac{5}{4}x - \frac{19}{30}$

C) $\frac{5}{4}x + \frac{29}{30}$

D) $-\frac{1}{4}x - \frac{19}{30}$

16) _____

17) $5ab - 3(2-ab) + 4(-1-6ab)$

A) $-16ab - 10$

B) $-22ab - 10$

C) $-2ab - 10$

D) $-21b + 2$

17) _____

Solve.

18) Write an expression for the total cost (in dollars) of Sam's purchase if he buys x candies costing 46 cents each and y bars of chocolate costing \$2.40 each.

A) $(0.46 + x) \cdot (2.40 + y)$

B) $0.46x + 2.40y$

18) _____

C) $2.86(x + y)$

D) $46x + 2.40y$

19) $10x + 18 = 4x + 48$

A) 8

B) -8

C) 5

D) -5

19) _____

$$20) -[8x + (7x + 9)] = 3 - (2x + 5)$$

A) 7

B) $\frac{1}{13}$

C) -1

D) $-\frac{7}{13}$

20) _____

$$21) 6(x - 2) - 6 = 8x - 2(x - 7)$$

A) \emptyset

B) all real numbers

21) _____

C) -20

D) 8

$$22) 12(x + 1) = 2(6x + 1) + 10$$

A) 6

B) 0

22) _____

C) all real numbers

D) \emptyset

$$23) \frac{7x}{10} + \frac{8}{5} = \frac{3x}{5}$$

A) -22

B) 22

C) 16

D) -16

23) _____

$$24) \frac{3x - 2}{9} + x = \frac{3x + 2}{3} + 3$$

A) $-\frac{11}{5}$

B) 7

C) $-\frac{31}{3}$

D) $\frac{35}{3}$

24) _____

$$25) \frac{2x+5}{3} = \frac{4x-3}{8}$$

A) $-\frac{27}{8}$

B) $-\frac{31}{4}$

C) $-\frac{49}{4}$

D) $-\frac{49}{28}$

25) _____

Solve the equation for the specified variable.

26) $2x - 3y = 5$ for y

A) $y = \frac{2x - 5}{3}$

B) $y = 2x - 5$

C) $y = \frac{5 - 2x}{3}$

D) $y = \frac{2x + 5}{3}$

26) _____

Solve the inequality.

27) $4(4x - 2) + 5 \leq 14x - 1$

A) $x \leq -1$

B) $x \geq -1$

C) $x \leq 1$

D) $x \geq 1$

27) _____

28) $\frac{5x + 1}{8} - \frac{1 + 3x}{4} \leq -\frac{1}{2}$

A) $x \geq -3$

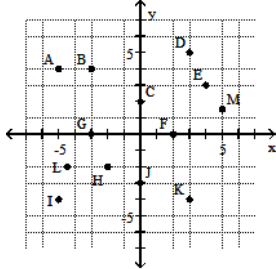
B) $x \leq 3$

C) $x > -3$

D) $x \geq 3$

28) _____

Determine the coordinates of the indicated point on the graph.



29) C

A) (1, 2)

B) (2, 0)

C) (0, 2)

D) (2, 1)

29) _____

30) I

A) (-4, 5)

B) (-5, 4)

C) (-5, -4)

D) (-4, -5)

30) _____

Name the quadrant or axis in which the point lies.

31) (9, -3)

A) quadrant I

B) quadrant II

C) quadrant III

D) quadrant IV

31) _____

32) (0, 11)

A) quadrant I

B) quadrant II

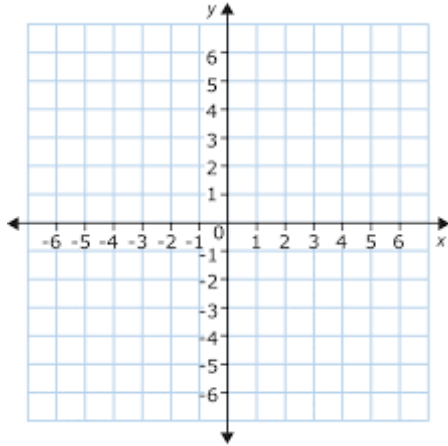
C) x-axis

D) y-axis

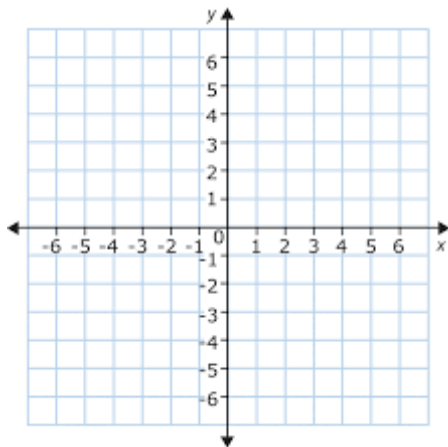
32) _____

Graph the equation.

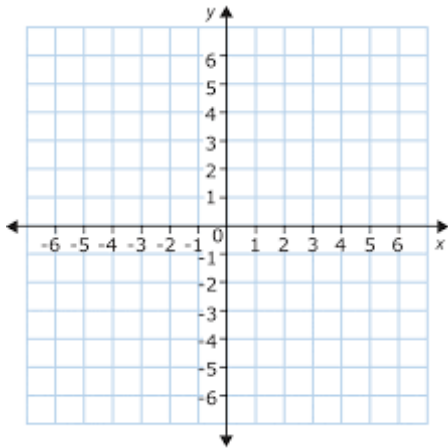
33) $y = 5$



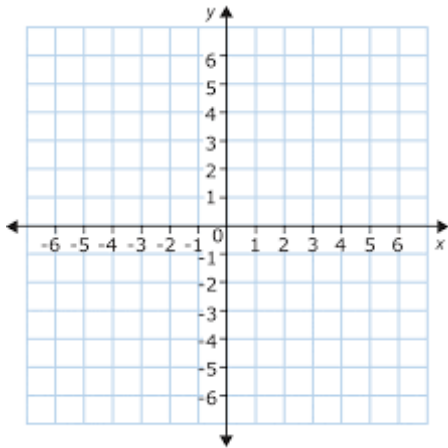
34) $y = -4x + 2$



35) $y = 4x$



36) $-3x - 2y = 5$



MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine whether the ordered pair is a solution of the system of linear equations.

37) $(1, 3), \begin{cases} 3x + y = 6 \\ 2x + 3y = 11 \end{cases}$

A) Yes

B) No

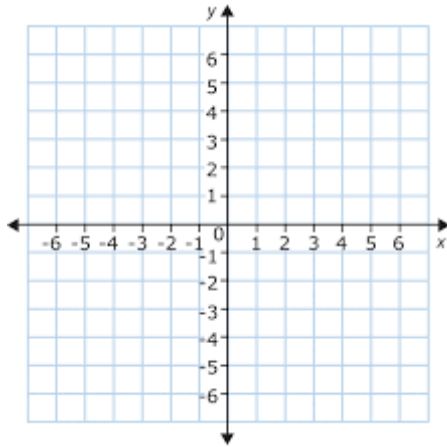
37) _____

Solve the system by graphing.

38)

$$\begin{cases} 3x + y = 5 \\ x - 2y = 4 \end{cases}$$

38) _____



A) (-1, 2)

B) (2, -1)

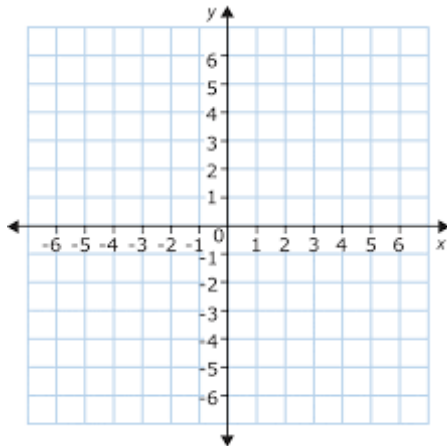
C) (-1, -2)

D) (2, 1)

39)

$$\begin{cases} x + 4y = 4 \\ 5x - 7y = -7 \end{cases}$$

39) _____



A) (1, 0)

B) (1, 1)

C) (0, 1)

D) (0, 0)

Solve the system of equations.

40)

$$\begin{cases} y = 5x - 2 \\ 3y + 9x = -102 \end{cases}$$

A) $(-4, -22)$

B) $(-22, -4)$

C) $\{(x, y) | y = 5x - 2\}$

D) \emptyset

40) _____

41)

$$\begin{cases} x + 6y = 30 \\ -3x + 5y = 48 \end{cases}$$

A) $(-6, 6)$

B) $(6, 7)$

C) $(-7, 7)$

D) \emptyset

41) _____

42)

$$\begin{cases} x + 3y = 8 \\ -2x + 2y = 16 \end{cases}$$

A) $(4, 5)$

B) $(-5, 5)$

C) $(-4, 4)$

D) \emptyset

42) _____

SHORT ANSWER. Show all your work. Write your answer in the space provided.

43)

$$\begin{cases} y = 2x + 3 \\ 3y - 15x = 45 \end{cases}$$

43) _____

44)

$$\begin{cases} 5x + 4y = 26 \\ 2x + 4y = 44 \end{cases}$$

44) _____

45)

$$\begin{cases} 3x + 7y = -32 \\ 7x + 3y = -8 \end{cases}$$

45) _____