Name_____

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

Evaluate the expression.

1) $25 - [5 - (3 - 8)] + (1 - 3)^3$ 1) _____

A) -23 B) 33 C) 7 D) 23

2) $\frac{(-8) \cdot (4 - 7) + (-8) \cdot 6}{(-8) \cdot (7 - 3)}$ 2) _____

A) $\frac{3}{4}$ B) 0 C) $\frac{198}{53}$ D) 2

Perform the indicated operation.

3) $\frac{-13(-4) - (-4)(-3)}{-6(2) - 4(-2)}$ 3) _____

A) -10 B) -2 C) 16 D) 10

Evaluate the expression for the given replacement values.

4) $x^2 + y^2$ when x = 8 and y = -3 4) _____

A) 73 B) 48 C) 576 D) 22

Evaluate the expression for the given values.

5) $\frac{5x + 12y}{x - 6}$ for x = 9, y = -5 5) _____

A) 5 B) -5 C) 35 D) 1

Evaluate the expression, given x = -2, y = 3, and a = -4.

6) $\frac{5a^2 - y}{x + 2}$ 6) _____

A) 0 B) $-\frac{83}{4}$ C) $\frac{77}{4}$ D) Undefined

Identify the property illustrated by the statement.

7) (9 + 2) + 7 = (2 + 9) + 7 7) _____

A) associative property of addition
B) distributive property
C) commutative property of addition
D) additive inverse property

8) 3(x + 3) = 3x + 3 • 3 8) _____

A) commutative property of addition
B) identity element for multiplication
C) associative property of multiplication
D) distributive property

9) 2 + (-2) = 0 9) _____

A) identity element for addition
B) additive inverse property
C) commutative property of addition
D) associative property of addition

Remove parentheses and simplify the expression.

10) $-4(9r + 10) + 5(10r + 7)$ 10) _____

A) $14r - 5$ B) $-76r$ C) $14r + 10$ D) $5r + 6$

11) $(7z + 12) - (2z - 8)$ 11) _____

A) $5z - 20$ B) $5z + 4$ C) $5z + 20$ D) $9z + 20$

12) $-5(2x - 7) - 4x + 10$ 12) _____

A) $14x + 45$ B) $6x + 45$ C) $-14x - 25$ D) $-14x + 45$

Solve the equation.

13) $7x - (6x - 1) = 2$ 13) _____

A) -1 B) $\frac{1}{13}$ C) 1 D) $-\frac{1}{13}$

14) $3p = 6(3p + 2)$ 14) _____

A) $\frac{4}{5}$ B) 4 C) $\frac{5}{4}$ D) $-\frac{4}{5}$

15) $-5x + 5(3x - 7) = -19 - 6x$ 15) _____

A) 1 B) $-\frac{27}{2}$ C) $-\frac{27}{8}$ D) -1

16) $\frac{2x}{5} - \frac{x}{3} = 2$ 16) _____

A) 60 B) -30 C) -60 D) 30

17) $\frac{3}{2}x + \frac{1}{5} = \frac{7}{5}x$ 17) _____

A) 2 B) -2 C) 16 D) -16

18) $\frac{12}{7}x - \frac{1}{21}x = x - \frac{2}{3}$ 18) _____

A) $\frac{2}{21}$ B) $-\frac{6}{7}$ C) 0 D) -1

19) $-0.2(30) + 0.5x = 0.2(30 + x)$ 19) _____

A) 20 B) 30 C) 40 D) 50

Solve.

20) You have taken up gardening for relaxation and have decided to fence in your new rectangular shaped masterpiece. The length of the garden is 2 meters and 20 meters of fencing is required to completely enclose it. What is the width of the garden? 20) _____

A) 8 m B) 16 m C) 10 m D) 40 m

21) Use the formula $F = \frac{9}{5}C + 32$ to write $-10°$ C as degrees Fahrenheit. 21) _____

A) $-23.4°$ F B) $14°$ F C) $-50°$ F D) $12.2°$ F

Substitute the given values into the formula and solve for the unknown variable.

22) $P = 2L + 2W$; $P = 12, W = 4$ 22) _____

A) 2 B) 6 C) 8 D) 4

23) $I = prt$; $I = 9.1, p = 130, r = 0.01$ 23) _____

A) 0.7 B) 7 C) 11.83 D) 0.1183

Solve the equation for the indicated variable.

24) $A = \frac{1}{2}bh$ for h 24) _____

A) $h = \frac{2A}{b}$ B) $h = \frac{Ab}{2}$ C) $h = \frac{b}{2A}$ D) $h = \frac{A}{2b}$

25) $P = a + b + c$ for c 25) _____

A) $c = a + b - P$ B) $c = P - a - b$ C) $c = P + a - b$ D) $c = P + a + b$

26) $A = P + PRT$ for R 26) _____

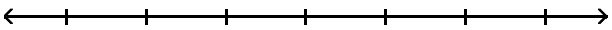
A) $R = \frac{PT}{A - P}$ B) $R = \frac{A}{T}$ C) $R = \frac{A - P}{PT}$ D) $R = \frac{P - A}{PT}$

27) $V = \frac{1}{3}Ah$ for h 27) _____

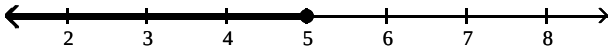
A) $h = \frac{3A}{V}$ B) $h = \frac{A}{3V}$ C) $h = \frac{V}{3A}$ D) $h = \frac{3V}{A}$

Solve the inequality.

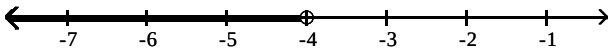
28) $-4x + 9 \geq -5x + 14$ 28) _____



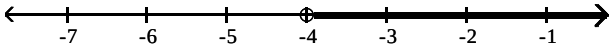
A) $\{x \mid x \leq 5\}$



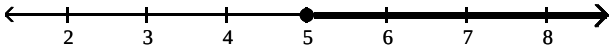
B) $\{x \mid x < -4\}$



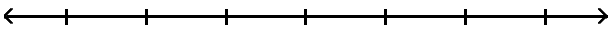
C) $\{x \mid x > -4\}$



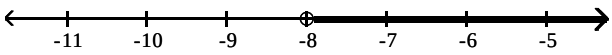
D) $\{x \mid x \geq 5\}$



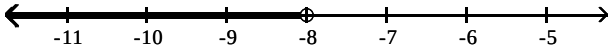
29) $-5(5y - 7) < -30y - 5$ 29) _____



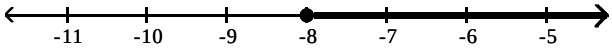
A) $\{y \mid y > -8\}$



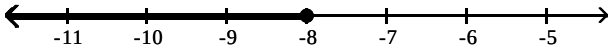
B) $\{y \mid y < -8\}$



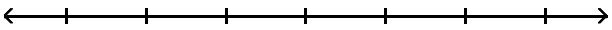
C) $\{y \mid y \geq -8\}$



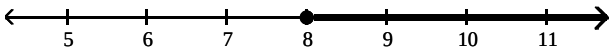
D) $\{y \mid y \leq -8\}$



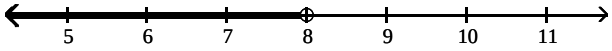
30) $-9x - 21 \leq -3(2x + 15)$ 30) _____



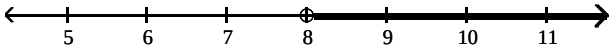
A) $\{x \mid x \geq 8\}$



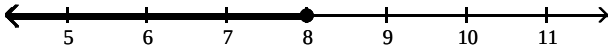
B) $\{x \mid x < 8\}$



C) $\{x \mid x > 8\}$



D) $\{x \mid x \leq 8\}$



Use the product rule to simplify. Write the results using exponents.

31) $2^7 \cdot 2^5$ 31) _____

A) 2^{12} B) 4^{35} C) 2^{35} D) 4^{12}

32) $(3p^6)(9p^2)$ 32) _____

A) $-27p^{12}$ B) $-27p^8$ C) $27p^{12}$ D) $27p^8$

Use the power rule and the power of a product or quotient rule to simplify the expression.

33) $(8x^6y^3z)^2$ 33) _____

A) $16x^{12}y^6z^2$ B) $8x^{12}y^6z^2$ C) $-8x^8y^5z$ D) $64x^{12}y^6z^2$

34) $(-7x^7y^9z)^3$ 34) _____

A) $-343x^{21}y^{27}z^3$ B) $-21x^{22}y^{28}z^4$ C) $-343x^7y^9z$ D) $343x^{10}y^{12}z$

35) $\left(\frac{2p^4v^3}{s^4}\right)^2$ 35) _____

A) $\frac{4p^8v^6}{s^8}$ B) $\frac{2p^8v^6}{s^8}$ C) $\frac{2p^8v^6}{s^6}$ D) $\frac{4p^6v^5}{s^6}$

Simplify the expression. Write the result using positive exponents only.

36) 4^{-3} 36) _____

A) -64 B) $\frac{1}{64}$ C) $\frac{1}{12}$ D) 64

37) $(3x^3)^2(2x)^{-2}$ 37) _____

A) $\frac{27x^4}{4}$ B) $\frac{9x^4}{4}$ C) $\frac{9x^8}{4}$ D) $6x^4$

Write the number in scientific notation.

38) 640,000 38) _____

A) 6.4×10^{-6} B) 6.4×10^{-5} C) 6.4×10^6 D) 6.4×10^5

39) 0.000668 39) _____

A) 6.68×10^{-5} B) 6.68×10^{-4} C) 6.68×10^4 D) 6.68×10^{-3}

Write the number in standard notation.

40) 3.911×10^{-5} 40) _____

A) 0.00003911 B) $-391,100$ C) 0.0003911 D) 0.000003911

41) 6.8594×10^6 41) _____

A) 68,594,000 B) 685,940 C) 6,859,400 D) 411.564

Add the polynomials.

42) $(7x^6 - 9x^3 + 6) + (3x^6 + 7x^3 - 5)$ 42) _____

A) $10x^6 - 2x^3 + 1$ B) $9x^9$ C) $10 - 2x^6 + 1x^3$ D) $9x^6 + 14x^3 - 14$

Perform the indicated operations.

43) $(-4x^4 + 8x^6 + 8 + 6x^5) - (-9 + 2x^5 + 6x^6 + 9x^4)$ 43) _____

A) $2x^6 + 8x^5 + 5x^4 - 1$ B) $14x^6 + 8x^5 + 5x^4 - 1$

C) $14x^6 + 8x^5 + 5x^4 + 17$ D) $2x^6 + 4x^5 - 13x^4 + 17$

44) $(8x^9 + 6x^7 - 7x^3 + 2) - (2x^9 - 7x^5 + 6x^3 - 9)$ 44) _____

A) $6x^9 + 6x^7 - 7x^5 - 13x^3 + 11$ B) $6x^9 + 6x^7 + 7x^5 - 13x^3 + 11$

C) $-6x^9 + 6x^7 - 7x^5 - 13x^3 + 11$ D) $-6x^9 + 6x^7 + 7x^5 - 13x^3 + 11$

Multiply.

45) $-7x^7(-12x^6 - 3x^2 + 7)$ 45) _____

A) $84x^{13} - 3x^2 + 7$
B) $84x^6 + 21x^2 - 49$
C) $84x^{13} + 21x^9 - 49x^7$
D) $84x^{13} + 21x^9$

Find the product.

46) $(y - 9)(y^2 + 9y - 3)$ 46) _____

A) $y^3 + 78y - 27$
B) $y^3 - 84y + 27$
C) $y^3 - 18y^2 - 84y + 27$
D) $y^3 + 18y^2 + 84y - 27$

47) $(6z - 7)(3z + 2)$ 47) _____

A) $18z^2 - 14$ B) $9z^2 - 5$ C) $18z^2 - 9z - 14$ D) $18z^2 + 33z - 14$

48) $(4x - 7)^2$ 48) _____

A) $4x^2 + 49$ B) $16x^2 + 49$ C) $16x^2 - 56x + 49$ D) $4x^2 - 56x + 49$

Multiply.

49) $(11p + 8)(11p - 8)$ 49) _____

A) $121p^2 - 64$
B) $121p^2 + 176p - 64$
C) $121p^2 - 176p - 64$
D) $p^2 - 64$

50) $(2x + 11y)^2$ 50) _____

A) $2x^2 + 44xy + 121y^2$
B) $2x^2 + 121y^2$
C) $4x^2 + 121y^2$
D) $4x^2 + 44xy + 121y^2$

Perform the division.

51) $\frac{-32x^5 + 24x^4 - 56x^3}{-8x^4}$ 51) _____

A) $4x - 3$ B) $4x - 3 + \frac{7}{x}$ C) $4x + 24x^4 + \frac{7}{x}$ D) $11x - 3$

52) $\frac{x^2 + 8x + 15}{x + 3}$ 52) _____

A) $x^3 - 12$ B) $x^2 + 5$ C) $x - 12$ D) $x + 5$

53) $\frac{p^2 + 2p - 17}{p + 6}$ 53) _____

A) $p - 4 + \frac{7}{p + 6}$ B) $p - 7 + \frac{4}{p + 6}$ C) $p - 4$ D) $p + 4 + \frac{7}{p + 6}$

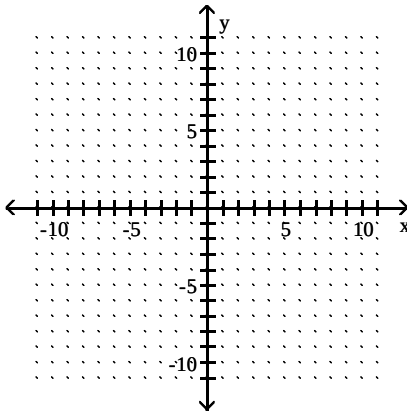
54) $\frac{3m^3 + 2m^2 - 4m + 8}{m + 2}$ 54) _____

A) $m^2 + 5m + 6$ B) $3m^2 - 4m + 4$ C) $3m^2 + 4m + 4$ D) $m^2 + 4m + 3$

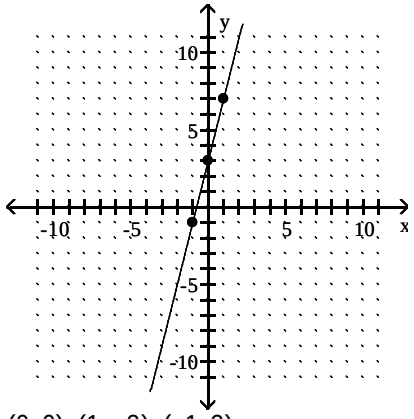
Complete the ordered pairs for the given linear equation. Then plot the points and graph the equation by connecting the points.

55) $y = -4x + 3$ 55) _____

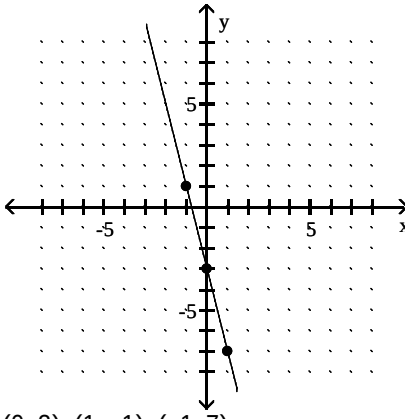
(0,), (1,), (-1,)



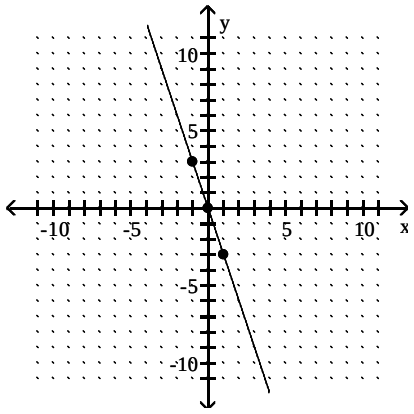
A) (0, 3), (1, 7), (-1, -1)



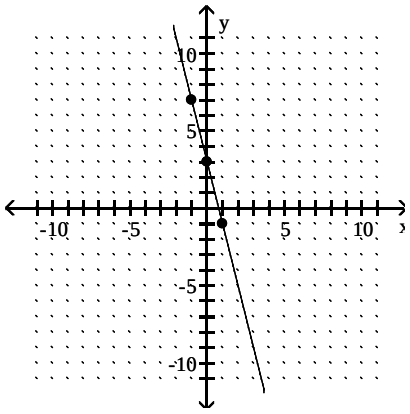
B) (0, -3), (1, -7), (-1, 1)



C) (0, 0), (1, -3), (-1, 3)

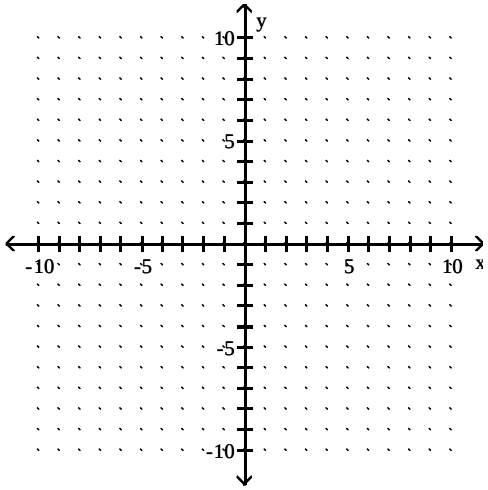


D) (0, 3), (1, -1), (-1, 7)

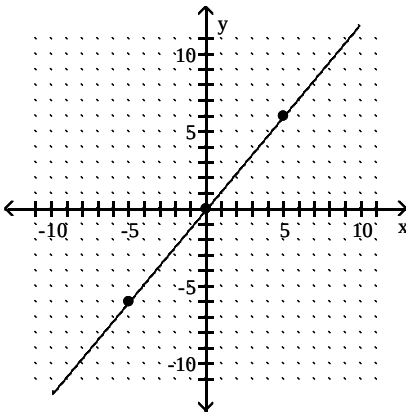


56) $6x + 5y = 0$ 56) _____

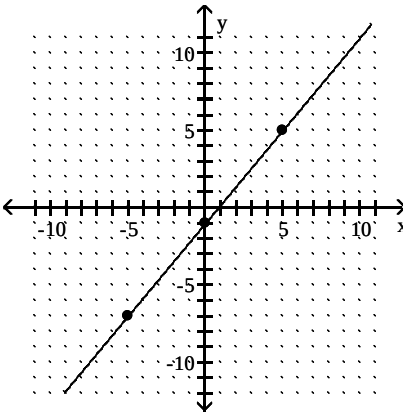
(-5,), (0,), (5,)



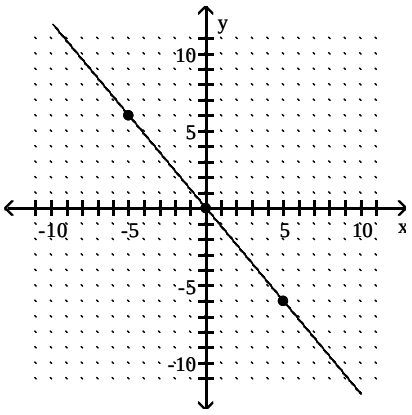
A) (-5, -6), (0, 0), (5, 6)



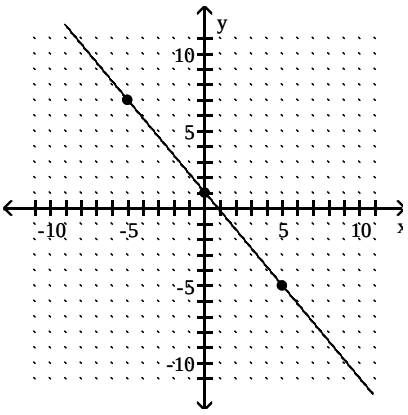
B) (-5, -7), (0, -1), (5, 5)



C) (-5, 6), (0, 0), (5, -6)



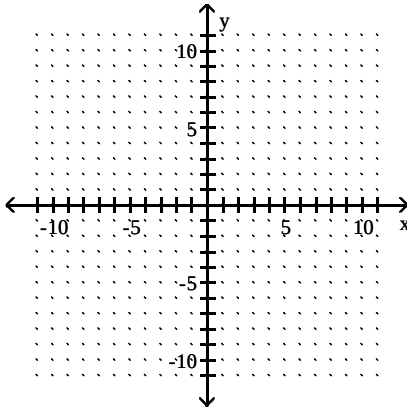
D) (-5, 7), (0, 1), (5, -5)



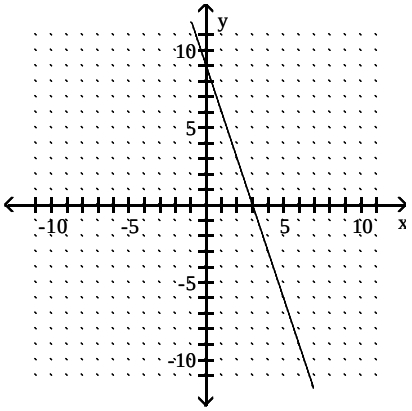
Graph the linear equation.

57) -x - 3y = -9

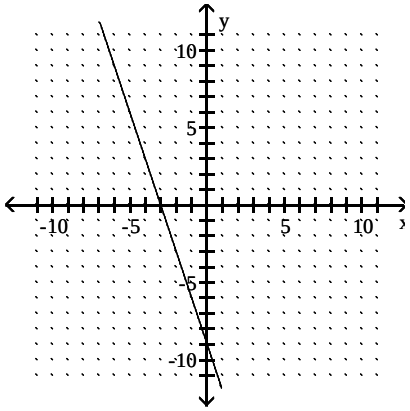
57) _____



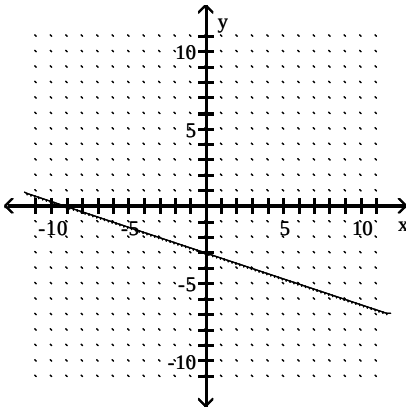
A)



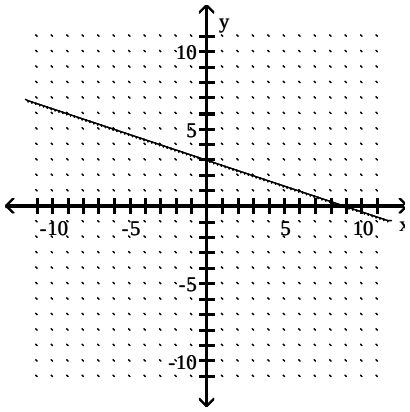
B)



C)



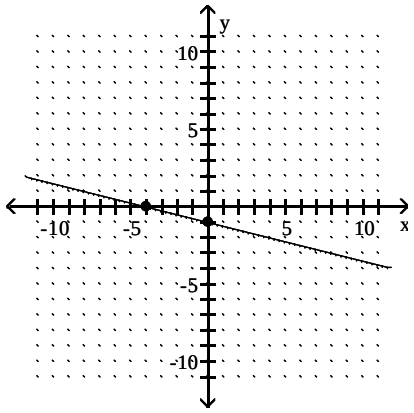
D)



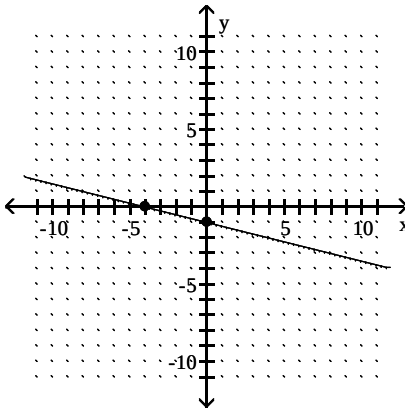
Find and graph the intercepts of the linear equation.

58) $-4x - 16y = 16$ 58) _____

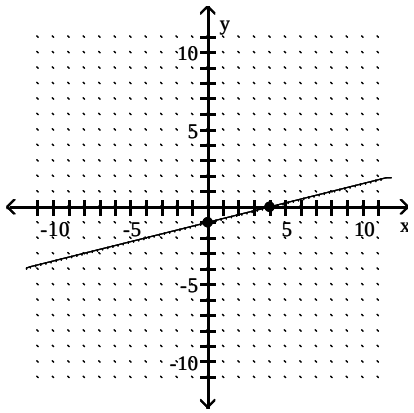
A) (0, -4), (-1, 0)



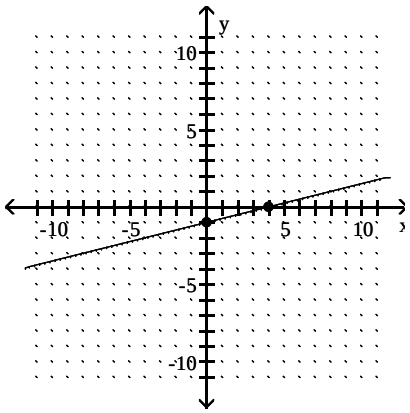
B) (0, -1), (-4, 0)



C) (0, 4), (-1, 0)



D) (0, -1), (4, 0)



Convert the units.

59) 49.57 m = ___ mm 59) _____

A) 4957 mm B) 49,570 mm C) 0.496 mm D) 0.0496 mm

60) 939 cm = ___ m 60) _____

A) 93.90 m B) 9390 m C) 9.39 m D) 93,900 m

61) 850 mg = ____ kg 61) _____

A) 850,000 kg B) 0.085 kg C) 85,000 kg D) 0.00085 kg

62) 678 mL = ____ L 62) _____

A) 6.78 L B) 678,000 L C) 67,800 L D) 0.678 L

63) 47 kg = ____ g 63) _____

A) 0.047 g B) 0.47 g C) 47,000 g D) 4700 g

64) 21 m = ___ cm 64) _____

A) 21,000 cm B) 0.21 cm C) 0.021 cm D) 2100 cm

1) C
Objective: (1.6) Evaluate Expressions Using Real Numbers
2) A
Objective: (1.6) Evaluate Expressions Using Real Numbers
3) A
Objective: (1.6) Use Order of Operations to Simplify Expression
4) A
Objective: (1.10) Chapter Test
5) B
Objective: (1.6) Evaluate Expressions Using Real Numbers
6) D
Objective: (1.6) Evaluate Expression
7) C
Objective: (1.7) Use the Identity and Inverse Properties
8) D
Objective: (1.7) Use the Identity and Inverse Properties
9) B
Objective: (1.7) Use the Identity and Inverse Properties
10) A
Objective: (1.8) Simplify Expressions Containing Parentheses
11) C
Objective: (1.8) Simplify Expressions Containing Parentheses
12) D
Objective: (1.8) Simplify Expressions Containing Parentheses
13) C
Objective: (2.3) Apply the General Strategy for Solving a Linear Equation
14) D
Objective: (2.3) Apply the General Strategy for Solving a Linear Equation
15) A
Objective: (2.3) Apply the General Strategy for Solving a Linear Equation
16) D
Objective: (2.3) Solve Equations Containing Fractions or Decimals
17) B
Objective: (2.3) Solve Equations Containing Fractions or Decimals
18) D
Objective: (2.3) Solve Equation with Fractions
19) C
Objective: (2.3) Solve Equation with Decimals
20) A
Objective: (2.5) Use Formulas to Solve Problems
21) B
Objective: (2.5) Use Formulas to Solve Problems
22) A
Objective: (2.5) Solve a Formula or Equation for One of Its Variables
23) B
Objective: (2.5) Solve a Formula or Equation for One of Its Variables

24) A
Objective: (2.5) Solve a Formula or Equation for One of Its Variables

25) B
Objective: (2.5) Solve a Formula or Equation for One of Its Variables

26) C
Objective: (2.5) Solve a Formula or Equation for One of Its Variables

27) D
Objective: (2.5) Solve a Formula or Equation for One of Its Variables

28) D
Objective: (2.7) Use the Addition Property of Inequality to Solve Inequalities

29) B
Objective: (2.7) Use Both Properties to Solve Inequalities

30) A
Objective: (2.7) Use Both Properties to Solve Inequalities

31) A
Objective: (3.1) Use the Product Rule for Exponents

32) D
Objective: (3.1) Use the Product Rule for Exponents

33) D
Objective: (3.1) Use the Power Rules for Products and Quotients

34) A
Objective: (3.1) Use the Power Rules for Products and Quotients

35) A
Objective: (3.1) Use the Power Rules for Products and Quotients

36) B
Objective: (3.2) Simplify Expressions Containing Negative Exponents

37) B
Objective: (3.2) Use the Rules and Definitions for Exponents to Simplify Exponential Expressions

38) D
Objective: (3.2) Write Numbers in Scientific Notation

39) B
Objective: (3.2) Write Numbers in Scientific Notation

40) A
Objective: (3.2) Convert Numbers in Scientific Notation to Standard Form

41) C
Objective: (3.2) Convert Numbers in Scientific Notation to Standard Form

42) A
Objective: (3.4) Add Polynomials

43) D
Objective: (3.4) Add or Subtract Polynomials in One Variable

44) B
Objective: (3.4) Add or Subtract Polynomials in One Variable

45) C
Objective: (3.5) Multiply a Monomial by a Polynomial

46) B
Objective: (3.5) Multiply Two Polynomials

47) C
Objective: (3.5) Multiply Two Polynomials

48) C
Objective: (3.5) Multiply Two Polynomials

49) A
Objective: (3.6) Multiply the Sum and Difference of Two Terms

50) D
Objective: (3.6) Square a Binomial

51) B
Objective: (3.7) Divide a Polynomial by a Monomial

52) D
Objective: (3.7) Use Long Division to Divide a Polynomial by a Polynomial Other than a Monomial

53) A
Objective: (3.7) Use Long Division to Divide a Polynomial by a Polynomial Other than a Monomial

54) B
Objective: (3.7) Use Long Division to Divide a Polynomial by a Polynomial Other than a Monomial

55) D
Objective: (6.2) Graph a Linear Equation by Finding and Plotting Ordered Pair Solutions

56) C
Objective: (6.2) Graph a Linear Equation by Finding and Plotting Ordered Pair Solutions

57) D
Objective: (6.2) Graph a Linear Equation by Finding and Plotting Ordered Pair Solutions

58) B
Objective: (6.3) Graph a Linear Equation by Finding and Plotting Intercept Points

59) B
Objective: (7.2) Convert Metric Length Units

60) C
Objective: (7.2) Convert Metric Length Units

61) D
Objective: (7.3) Convert Metric Mass Units

62) D
Objective: (7.3) Convert Metric Capacity Units

63) C
Objective: (7.3) Convert Metric Mass Units

64) D
Objective: (7.2) Convert Metric Length Units