

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

Solve.

- 1) Wayne has \$19.50 in his wallet. Janice has a debt note for \$28.09 in her wallet. Find the difference between these amounts. 1) _____
- A) -\$47.59 B) \$47.59 C) \$8.59 D) -\$8.59

Simplify to lowest terms.

- 2) $\frac{27}{63}$ 2) _____
- A) $\frac{27}{63}$ B) $\frac{3}{9}$ C) $\frac{3}{7}$ D) $\frac{9}{7}$

Divide.

- 3) $\frac{32}{7} \div 4$ 3) _____
- A) $\frac{7}{8}$ B) $\frac{8}{7}$ C) 8 D) $\frac{128}{7}$

Identify the base and the exponent. Do not evaluate.

- 4) 13^{14} 4) _____
- A) Base: 182, exponent: 14 B) Base: 13, exponent: 14
C) Base: 14, exponent: 182 D) Base: 14, exponent: 13

Identify the coefficient of the given term.

- 5) $-8.5y$ 5) _____
- A) 8.5 B) $-8.5y$ C) -1 D) -8.5

Use the distributive property to write an equivalent expression.

- 6) $6(8x + 3)$ 6) _____
- A) $8x + 18$ B) $48x + 3$ C) $66x$ D) $48x + 18$

Evaluate using the order of operations.

- 7) $\frac{-2(6^2) - 6(9 - 5)}{-6(2 - 7) \div (-5)}$ 7) _____
- A) 16 B) -26 C) 26 D) -16

Determine whether the equation is an identity. (Y/N)

- 8) $30m + 12 = 3(5m + 49)$ 8) _____
- A) Yes B) No

Use the formulas below to answer the question. Round your answer to the nearest tenth if necessary.

$$C = \frac{5}{9}(F - 32) \text{ or } C = \frac{F - 32}{1.8}$$

$$F = \frac{9}{5}C + 32 \text{ or } F = 1.8C + 32.$$

9) The average temperature on a planet in a solar system is 149°F. What is this temperature in degrees Celsius? 9) _____

- A) 50.8°C B) 300.2°C C) 91°C D) 65°C

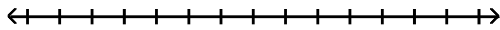
Solve.

10) $7y - 2(y - 7) = 11y - (7y + 10)$ 10) _____

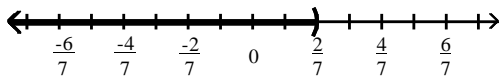
- A) -24 B) -4 C) 4 D) 24

Solve and graph. Write the solution set in set-builder and interval notation.

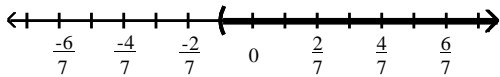
11) $x + \frac{1}{21} > \frac{4}{21}$ 11) _____



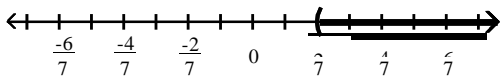
A) $\left\{ x \mid x < \frac{2}{7} \right\}; \left(-\infty, \frac{2}{7} \right)$



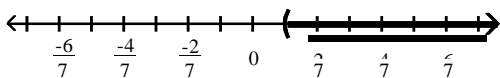
B) $\left\{ x \mid x > -\frac{1}{7} \right\}; \left(-\frac{1}{7}, \infty \right)$



C) $\left\{ x \mid x > \frac{1}{7} \right\}; \left(\frac{1}{7}, \infty \right)$



D) $\left\{ x \mid x > \frac{1}{7} \right\}; \left(\frac{1}{7}, \infty \right)$



Solve.

12) $-5(-6x - 5) - 5(7 - 6x) = -12 + 61x$ 12) _____

- A) -22 B) 72 C) -10 D) 2

13) $-16.8 = -5.6c$

A) 11.2

B) 3.0

C) 2.0

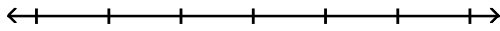
D) -11.2

13) _____

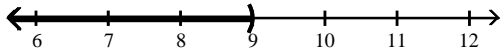
Solve and graph. Write the solution set in set-builder and interval notation.

14) $9m + 4 \geq 8m - 1$

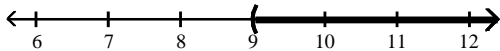
14) _____



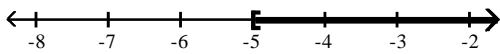
A) $\{m \mid m < 9\}; (-\infty, 9)$



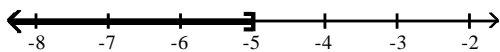
B) $\{m \mid m > 9\}; (9, \infty)$



C) $\{m \mid m \geq -5\}; [-5, \infty)$



D) $\{m \mid m \leq -5\}; (-\infty, -5]$



Translate word for word or to a proportion, then solve.

15) What percent of 65 is 668?

A) 1027.7%

B) 102.8%

C) 1.0%

D) 0.1%

15) _____

Solve the problem.

16) If the first and third of three consecutive odd integers are added, the result is 57 less than five times the second integer. Find the third integer.

16) _____

A) 17

B) 38

C) 19

D) 21

Solve.

17) A triangular lake-front lot has a perimeter of 2200 feet. One side is 200 feet longer than the shortest side, while the third side is 500 feet longer than the shortest side. Find the lengths of all three sides.

17) _____

A) 600 ft., 600 ft., 600 ft.

B) 500 ft., 700 ft., 1000 ft.

C) 100 ft., 200 ft., 300 ft.

D) 600 ft., 800 ft., 1100 ft.

Determine whether the ratios are equal.

18) $\frac{2}{7} = \frac{?}{32}$

18) _____

A) Yes

B) No

Solve.

19) How many cups of party mix that is 74% pretzels must be added to 135 cups of a party mix that is 47% pretzels to make a party mix that is 59% pretzels? 19) _____

- A) 108 cups B) 109 cups C) 111 cups D) 110 cups

Solve the problem.

20) Matthew has two different stocks. One of the stocks is worth \$4 more per share than the other. He has 13 shares of the more valuable stock and 27 shares of the other stock. His total assets in stocks is \$1412. How much is the more expensive stock worth per share? 20) _____

- A) \$4 per share B) \$40 per share C) \$38 per share D) \$30 per share

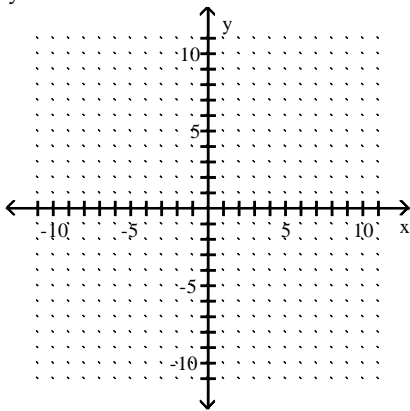
Find the x- and y- intercepts.

21) $3x - 5y = 8$ 21) _____

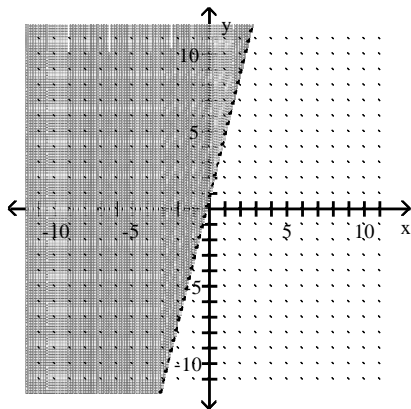
- A) $(\frac{8}{3}, 0), (0, \frac{8}{5})$ B) $(\frac{8}{3}, 0), (0, -\frac{8}{5})$ C) $(5, 0), (0, 13)$ D) $(-\frac{8}{5}, 0), (0, \frac{8}{3})$

Graph the linear inequality.

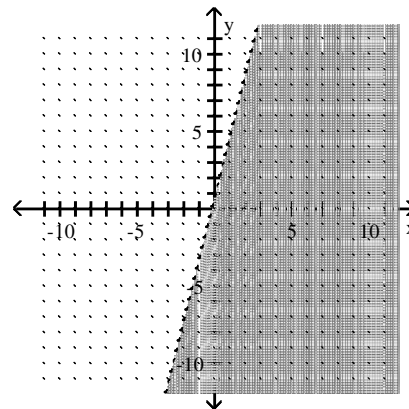
22) $y < -4x + 1$ 22) _____



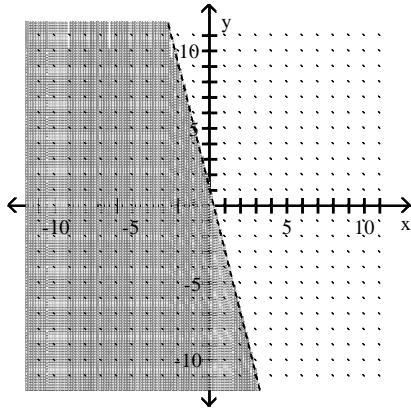
A)



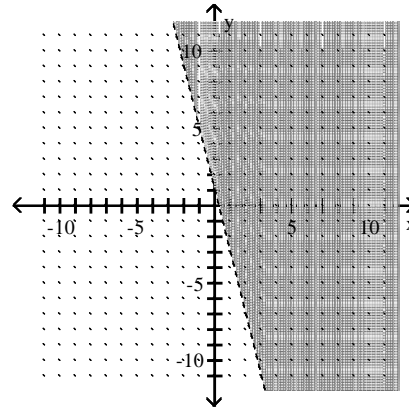
B)



C)



D)



Determine if the relation is a function.

23) $\{(3, -2), (4, 2), (8, 8), (3, 6)\}$

A) Yes

B) No

23) _____

Solve.

24) The value, v , in hundreds of dollars, of Juan's computer is approximated by $v = -0.50t + 9$ where t is the number of years since he first bought the computer. Find the value of the computer 6 years after it was purchased.

A) \$600

B) \$780

C) \$300

D) \$1200

24) _____

Determine if the relation is a function.

25) $\{(-7, 2), (-4, -3), (-2, 9), (2, 7)\}$

A) No

B) Yes

25) _____

Write the equation of a line that passes through the given point and is parallel to the given line. Write the equation in slope-intercept form and in the form of $Ax + By = C$, where A , B , and C are integers and $A > 0$.

26) $(1, -4); y = 2x - 7$

A) $y = -2x + 2$
 $2x + y = 2$

B) $y = -2x - 2$
 $2x + y = -2$

C) $y = 2x + 6$
 $2x - y = -6$

D) $y = 2x - 6$
 $2x - y = 6$

26) _____

Write the number in scientific notation.

27) The population of a city is 81,000.

A) 8.1×10^4

B) 8.1×10^5

C) 8.1×10^{-4}

D) 8.1×10^{-5}

27) _____

Combine like terms and write the resulting polynomial in descending order of degree.

28) $8p^5 - 7p^4 + 3p^5 + 5p^4$

A) $5p^5 - 2p^4$

B) $11p^5 - 2p^4$

C) $11p^5 - 12p^4$

D) $22p^5 - 4p^4$

28) _____

Write the number in standard form.

29) The electrical resistance was 4.0826×10^4 ohms.

29) _____

A) 408,260

B) 40,826

C) 4082.6

D) 163.304

Add.

30) $(6x^3y^3 + 4x^2y^2 - x^2y + xy^2 + 2x + 3) + (x^3y^3 - x^2y^2 + x^2y + 2x - 6)$

30) _____

A) $7x^3y^3 + 5x^2y^2 + x^2y + 4x - 3$

B) $7x^3y^3 + 3x^2y^2 + 2xy^2 - 3$

C) $7x^3y^3 + 3x^2y^2 + xy^2 + 4x - 3$

D) $7x^3y^3 + 4x^2y^2 + x^2y + 3$

Multiply using the rules for special products.

31) $(4y + x)(4y - x)$

31) _____

A) $16y^2 - 8xy - x^2$

B) $16y^2 - x^2$

C) $8y^2 - x^2$

D) $16y^2 + 8xy - x^2$

Factor.

32) $729p^3 - 1$

32) _____

A) $(9p - 1)^3$

B) $(9p - 1)(81p^2 + 9p + 1)$

C) Prime

D) $(9p - 1)(81p^2 + 1)$

Solve the problem.

33) The length of a rectangular frame is 6 cm more than the width. The area inside the frame is 135 square cm. Find the width of the frame.

33) _____

A) 21 cm

B) 11 cm

C) 15 cm

D) 9 cm

Factor.

34) $4x^2 + 12x + 9$

34) _____

A) $(4x + 3)(x + 3)$

B) $(2x + 3)(2x + 3)$

C) $(2x - 3)(2x - 3)$

D) Prime

35) $u^2 - 7uv - 18v^2$

35) _____

A) $(u - 2v)(u + v)$

B) $(u - v)(u + 9v)$

C) $(u - 2v)(u + 9v)$

D) $(u + 2v)(u - 9v)$

36) $x^2 + 8x + 16$

36) _____

A) Not a perfect square

B) $(x - 4)^2$

C) $(x + 4)(x - 4)$

D) $(x + 4)^2$

Use dimensional analysis to solve the problem.

37) The speed of sound under certain conditions is 1089 ft/sec. Calculate the speed in miles per hour. Round answers to the nearest tenths.

37) _____

A) 742.5 mi/hr

B) 12.4 mi/hr

C) 746.5 mi/hr

D) 2227.5 mi/hr

Simplify, if possible.

38) $\frac{x^2 - 25}{(x - 5)^2}$

38) _____

A) $\frac{x^2 - 25}{(x - 5)^2}$

B) $x + 5$

C) $\frac{x - 5}{x + 5}$

D) $\frac{x + 5}{x - 5}$

Evaluate the rational expression.

39) $\frac{x}{x - 2}$ when $x = -2$

39) _____

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

B) 0

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

D) Undefined

40) $\frac{x}{x + 7}$ when $x = -7$

40) _____

A) $-\frac{1}{7}$

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

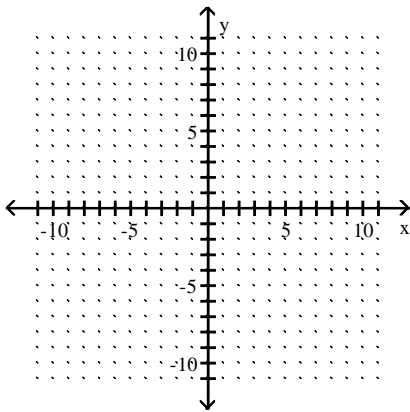
C) 0

D) Undefined

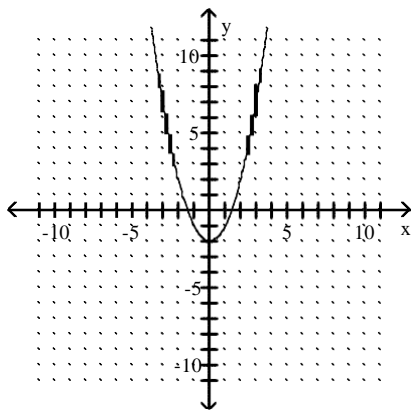
Graph.

41) $f(x) = x^2 - 8x + 14$

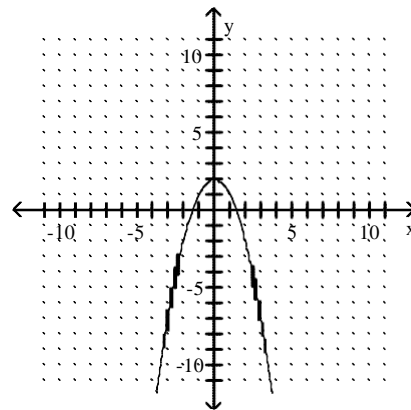
41) _____



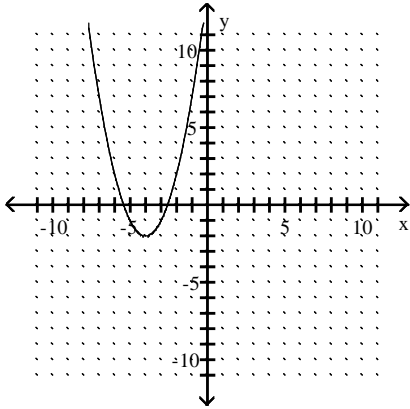
A)



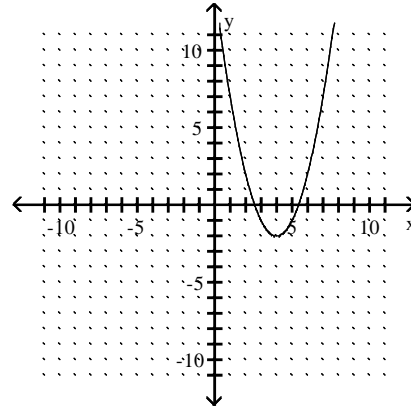
B)



C)



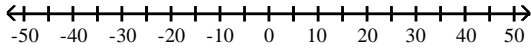
D)



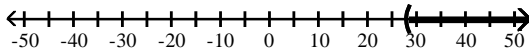
Solve and graph. Write the solution in interval notation.

42) $|0.25z - 5| + 4 > 6$

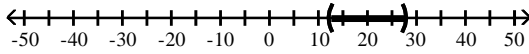
42) _____



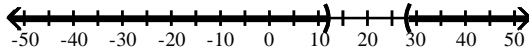
A) $(28, \infty)$



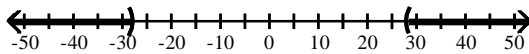
B) $(12, 28)$



C) $(-\infty, 12) \cup (28, \infty)$



D) $(-\infty, -28) \cup (28, \infty)$



Find the indicated intersection or union.

43) $\{q, s, u, v, w, x\} \cap \emptyset$

43) _____

A) $\{q, s, u, v, w\}$

B) $\{q\}$

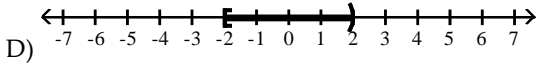
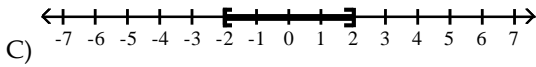
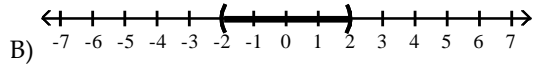
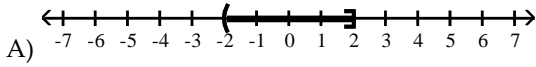
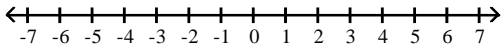
C) $\{q, s, u, v, w, x\}$

D) \emptyset

Graph the compound inequality.

44) $x \geq -2$ and $x < 2$

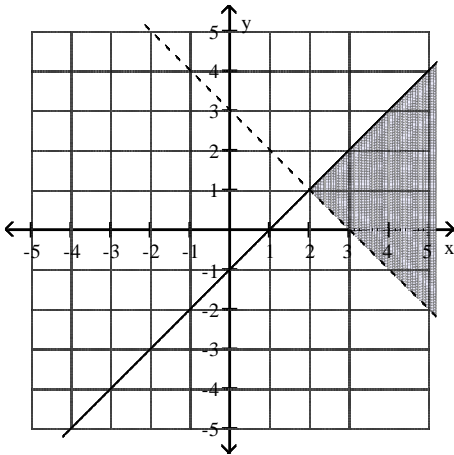
44) _____



Explain the mistake in the graph.

45)

45) _____



$$\begin{cases} x + y < 3 \\ x - y \geq 1 \end{cases}$$

- A) $x - y \geq 1$ is shaded on the wrong side.
- C) $x + y < 3$ should be a solid line.

- B) $x + y < 3$ is shaded on the wrong side.
- D) $x - y \geq 1$ should be a dotted line.

Find the determinant.

46)

46) _____

$$\begin{bmatrix} 3 & -1 \\ 1 & 2 \end{bmatrix}$$

- A) 7
- B) -7
- C) 5
- D) -5

Solve using Cramer's Rule.

47)

$$\begin{cases} \frac{1}{3}x - \frac{1}{2}y + \frac{5}{6}z = -\frac{13}{6} \\ \frac{3}{2}x + \frac{1}{4}y + \frac{2}{3}z = \frac{10}{3} \\ \frac{1}{2}x + \frac{3}{4}y + \frac{1}{4}z = \frac{15}{4} \end{cases}$$

A) (2, 4, -1)

B) (2, -4, -1)

C) (-2, 4, -1)

D) (-2, 4, 1)

47) _____

Determine if the given point is a solution of the system.

48) (-2, 6, -1)

$$\begin{cases} -x + 3y + 4z = 16 \\ 3x + 2y - z = 7 \\ 4x - y + 3z = -17 \end{cases}$$

A) Yes

B) No

48) _____

Solve.

49) $\sqrt[3]{t} = -4$

A) $\sqrt[3]{-4}$

C) -12

B) -64

D) no real-number solution

49) _____

Evaluate the root, if possible.

50) $\sqrt[4]{\frac{256}{625}}$

A) $\frac{256}{625}$

B) $\frac{4}{5}$

C) $\frac{16}{25}$

D) $\frac{64}{125}$

50) _____

Simplify. Assume variables represent nonnegative values.

51) $\sqrt[3]{64a^8b^5}$

A) $4ab\sqrt[3]{a^2b^2}$

B) $4ab\sqrt[3]{a^3b^3}$

C) $4\sqrt[3]{a^2b^2}$

D) $4a^2b\sqrt[3]{a^2b^2}$

51) _____

52) $\sqrt{48k^7q^8}$

A) $4k^3q^4\sqrt{3}$

B) $4k^3q^4\sqrt{3k}$

C) $4k^7q^8\sqrt{3k}$

D) $4k^2q^4\sqrt{3k}$

52) _____

Solve.

53) $x^4 - 5x^2 - 36 = 0$

A) $\pm 3i, \pm 2i$

B) $\pm 3, \pm 2i$

C) $\pm 3, \pm 2$

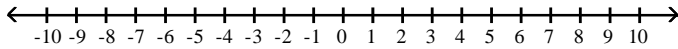
D) $\pm 2, \pm 3i$

53) _____

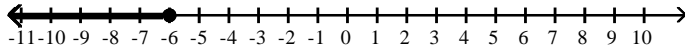
Solve the inequality, and graph the solution set.

54) $v^2 + 9v + 18 \geq 0$

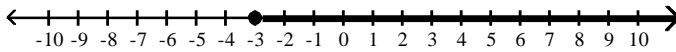
54) _____



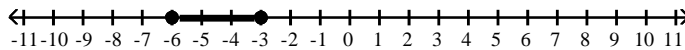
A) $(-\infty, -6]$



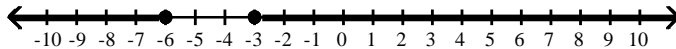
B) $[-3, \infty)$



C) $[-6, -3]$



D) $(-\infty, -6] \cup [-3, \infty)$



Solve.

55) $(r + 5)^2 = 11$

55) _____

A) $\pm\sqrt{11}$

B) $5 \pm \sqrt{11}$

C) $-5 \pm \sqrt{11}$

D) 6

Determine whether or not the given functions are inverses of each other.

56) $f(x) = x^3 + 7, g(x) = \sqrt[3]{x - 7}$

56) _____

A) Yes

B) No

Write the expression as a logarithm of a quantity to a power. Leave answers in simplest form without negative or fractional exponents.

57) $6 \log_7 y$

57) _____

A) $\log_6 y^7$

B) $7 \log_6 y^6$

C) $6 \log_7 y^6$

D) $\log_7 y^6$

Solve the equation.

58) $23x^{-3} = 30$ (Round to the nearest hundredth.)

58) _____

A) 3.92

B) 4.08

C) 4.46

D) 4.30

Solve the system of equations.

59) $\begin{cases} x^2 + y^2 = 24 \\ y^2 = 2x + 21 \end{cases}$

59) _____

A) $(1, \sqrt{23}), (-2, \sqrt{15}), (1, -\sqrt{23}), (-2, -\sqrt{15})$

B) $(2, \sqrt{23}), (-3, \sqrt{15}), (2, -\sqrt{23}), (-3, -\sqrt{15})$

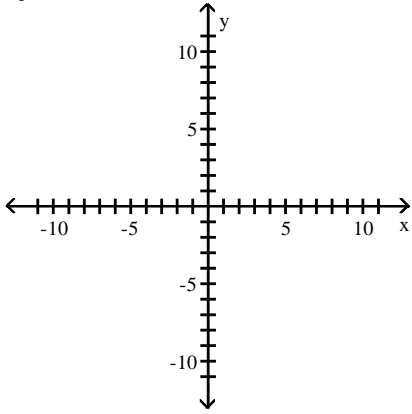
C) $(1, \sqrt{23}), (-3, \sqrt{15}), (1, -\sqrt{23}), (-3, -\sqrt{15})$

D) No solution

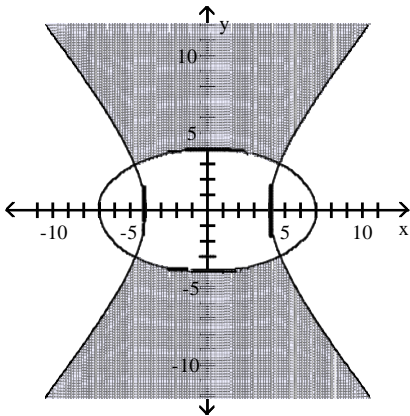
Graph the solution set of the system of inequalities.

$$60) \begin{cases} \frac{x^2}{16} - \frac{y^2}{25} \geq 1 \\ \frac{x^2}{49} + \frac{y^2}{16} \leq 1 \end{cases}$$

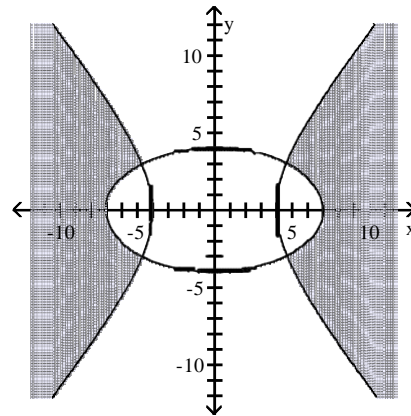
60) _____



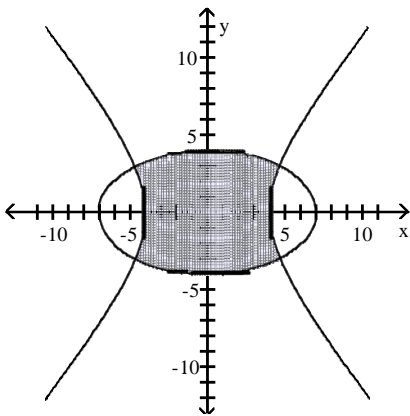
A)



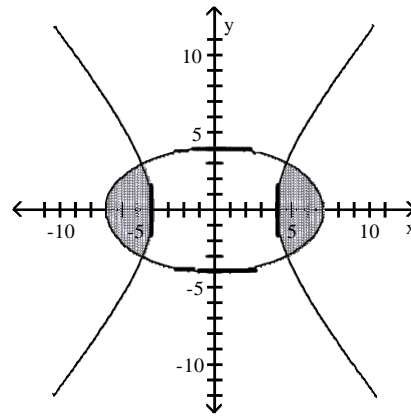
B)



C)



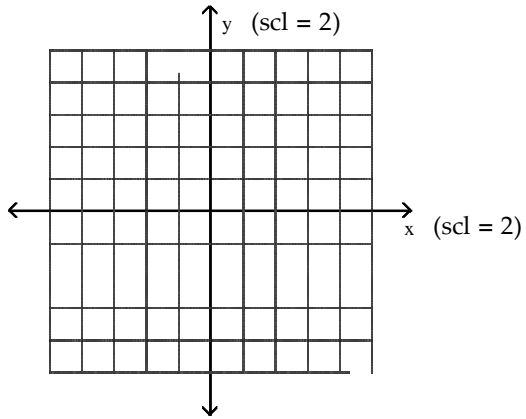
D)



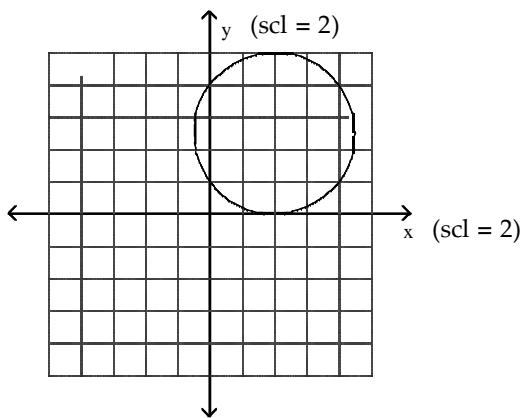
Graph using a graphing calculator.

61) $(x - 4)^2 + (y + 5)^2 = 25$

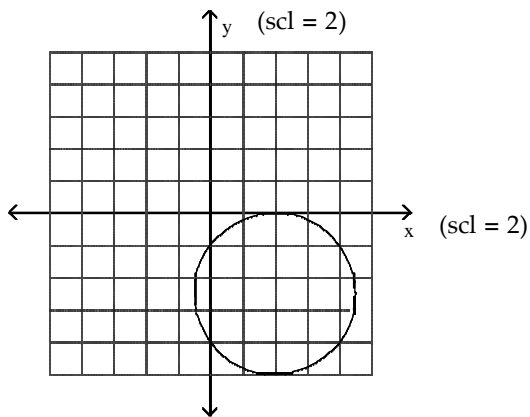
61) _____



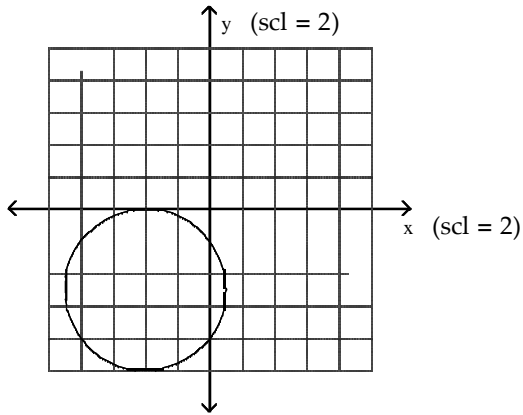
A)



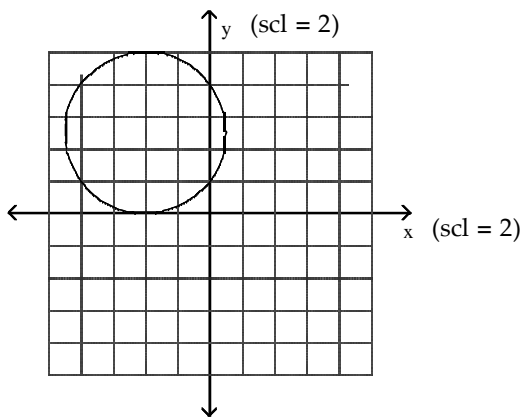
B)



C)



D)



Find the additive inverse.

62) $-\frac{a}{b}$

62) _____

A) -1

B) 0

C) $-\frac{b}{a}$

D) $\frac{a}{b}$

Add or subtract.

63) $|-17| + |14|$

63) _____

A) 31

B) -31

C) 3

D) -3

Evaluate using the order of operations.

64) $240 \div 6 - 4$

64) _____

A) 238

B) 230

C) 36

D) 120

Translate the sentence to an equation and then solve.

65) The product of negative four and n results in thirty-six.

65) _____

A) $-4n = 36$; 9

B) $-4n = 36$; -9

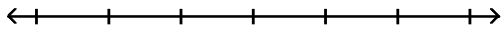
C) $-4 + n = 36$; 40

D) $-9n = 4$; 9

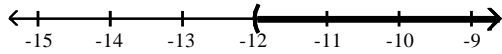
Solve and graph. Write the solution set in set-builder and interval notation.

66) $\frac{n}{-3} < 4$

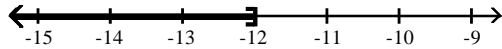
66) _____



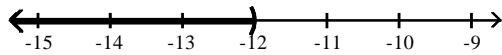
A) $\{n \mid n > -12\}; (-12, \infty)$



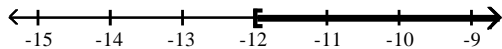
B) $\{n \mid n \leq -12\}; (-\infty, -12]$



C) $\{n \mid n < -12\}; (-\infty, -12)$



D) $\{n \mid n \geq -12\}; [-12, \infty)$



Solve.

67) Find the length of a rectangular lot with a perimeter of 132 meters if the length is 8 meters more than the width.

67) _____

A) 74 m

B) 66 m

C) 37 m

D) 29 m

Write the percent as a decimal.

68) 0.7%

68) _____

A) 0.007

B) 0.7

C) 0.008

D) 0.07

Find the x- and y- intercepts.

69) $5x + 2y = 10$

69) _____

A) (2, 0), (0, -5)

B) (-2, 0), (0, -5)

C) (2, 0), (0, 5)

D) (5, 0), (0, 2)

Write the equation of a line that passes through the given point and is perpendicular to the given line. Write the equation in slope-intercept form and in the form of $Ax + By = C$, where A, B, and C are integers and $A > 0$.

70) $(-3, -6); y = \frac{1}{2}x + 16$

70) _____

A) $y = -2x + 12$
 $2x + y = 12$

B) $y = -2x - 12$
 $2x + y = -12$

C) $y = \frac{1}{2}x - \frac{9}{2}$
 $x - 2y = 9$

D) $y = -\frac{1}{2}x - \frac{15}{2}$
 $x + 2y = -15$

Add.

71) $(19s + 14t) + (2t - 3s)$

71) _____

A) $21s + 11$

B) $32st$

C) $22s + 16t$

D) $16s + 16t$

Multiply.

72) $-10ax^5(-6ax^6 - 8x^4)$

72) _____

A) $60a^2x^{11} + 80x^9$

B) $60a^2x^{11} - 8x^4$

C) $60ax + 80x$

D) $60a^2x^{11} + 80ax^9$

Solve the problem.

73) The height of a triangle is 3 cm more than the length of the base. If the area of the triangle is 65 cm^2 , find the height and length of the base.

73) _____

A) height: 10 cm; base: 7 cm

B) height: 14 cm; base: 9 cm

C) height: 12 cm; base: 9 cm

D) height: 13 cm; base: 10 cm

Factor completely.

74) $16(x + 3)^2 - 49y^2$

74) _____

A) $[4(x + 3) - 4y][4(x + 3) - 7y]$

B) $[4(x + 3) - 7y][4(x + 3) + 7y]$

C) $[4(x + 3)^2 - 7y][4(x + 3)^2 + 7y]$

D) $[(x + 3) - 7y][(x + 3) + 7y]$

Solve.

75) The weight W of an object on the Moon varies directly as the weight E on earth. A person who weighs 130 lb on earth weighs 26 lb on the Moon. How much would a 117-lb person weigh on the Moon?

75) _____

A) .2 lb

B) 23.4 lb

C) 273 lb

D) 585 lb

Check the given value to see if it is a solution to the equation.

76) $\frac{x}{10} - \frac{2}{5} = \frac{x-1}{5}; \quad x = -2$

76) _____

A) Yes

B) No

Identify the domain and range of the relation.

77) Ranking of finalists in ice-skating competition:

77) _____

Rank	Name
1	Alice
2	Toni
3	Marcie
4	Celia

A) Domain: {1, 2, 3, 4, 5.....}; Range: {Alice, Toni, Marcie, Celia}

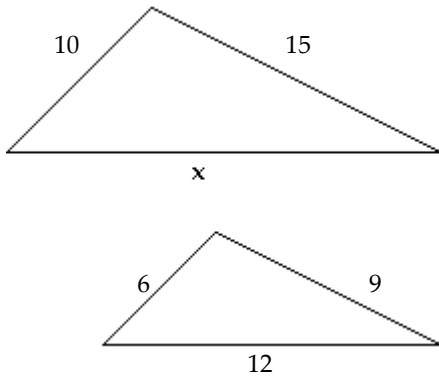
B) Domain: {1, 2, 3, 4}; Range: {Alice, Toni, Marcie, Celia}

C) Domain: {1, Alice}; Range: {2, Toni}

D) Domain: {Alice, Toni, Marcie, Celia} ; Range: {1, 2, 3, 4}

Find any missing lengths in the similar figures.

85)



A) $x = 20$

B) $x = 12$

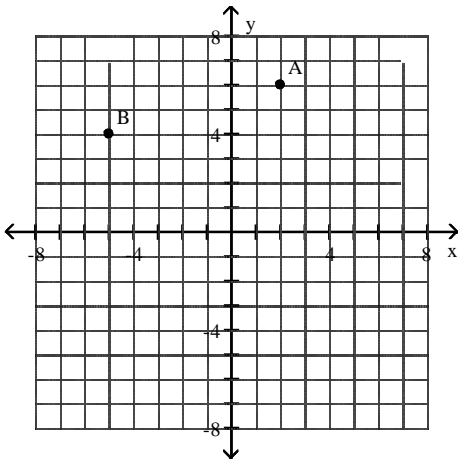
C) $x = 25$

D) $x = 19$

85) _____

Write the coordinates for each point.

86)



A) $A(2, 6); B(-5, 4)$

B) $A(2, 4); B(6, 4)$

C) $A(2, 6); B(4, -5)$

D) $A(6, 20); B(4, -5)$

86) _____

Simplify.

87) $3m^6n^4 \cdot (3m^5n^4)^4$

A) $84m^{28}n^{19}$

B) $9m^{15}n^{12}$

C) $243m^{11}n^8$

D) $243m^{26}n^{20}$

87) _____

Find the GCF.

88) $64a^{10}b^4, 56a^5b^{10}$

A) $8a^5b^4$

B) $4a^5b^6$

C) $8a^{10}b^{10}$

D) $448a^{10}b^{10}$

88) _____

Use dimensional analysis and the exchange rate below to convert.

	USD	GBP	CAD	EUR
USD	1	1.49819	0.652784	0.964599
GBP	0.667468	1	0.435712	0.643839
CAD	1.5319	2.29509	1	1.47766
EUR	1.0367	1.55318	0.676741	1

Round to the nearest hundredth, if necessary.

89) Change \$700 into £ (Great Britain pound).

A) 725.69 £

B) 467.23 £

C) 1,048.73 £

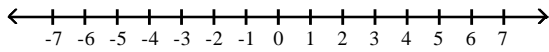
D) 675.22 £

89) _____

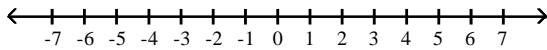
For the compound inequality, give the solution set in both interval and graph forms.

90) $6x - 4 < 2x$ or $-3x \leq -9$

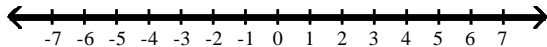
90) _____



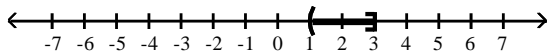
A) \emptyset



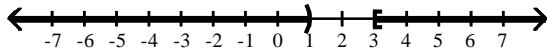
B) $(-\infty, \infty)$



C) $(1, 3]$



D) $(-\infty, 1) \cup [3, \infty)$

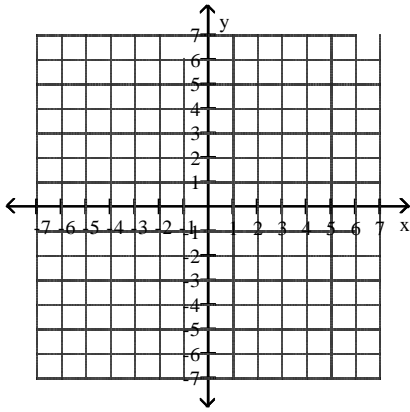


Solve the system graphically.

91)

$$\begin{cases} 3x + y = 10 \\ 6x + 2y = 20 \end{cases}$$

91) _____



A) (0, 10)

B) Inconsistent with independent equations

C) (5, -5)

D) Consistent with dependent equations

Write the quotient in standard form.

92) $\frac{3 + 3i}{5 + 2i}$

92) _____

A) $\frac{21}{29} + \frac{9}{29}i$

B) $1 - \frac{3}{7}i$

C) $\frac{3}{7} - \frac{3}{7}i$

D) $\frac{9}{29} - \frac{21}{29}i$

Find the x- and y-intercepts. If no x-intercepts exist, state so.

93) $f(x) = 2x^2 + 15x + 28$

93) _____

A) (-4, 0), ($\frac{7}{2}$, 0), (0, -28)

B) (-7, 0), (-2, 0), (0, 28)

C) (-7, 0), (-2, 0), (0, -28)

D) (-4, 0), ($-\frac{7}{2}$, 0), (0, 28)

Write the expression using a multiple of a logarithm.

94) $\log_b \frac{1}{y^9}$

94) _____

A) $\frac{1}{9} \log_b y$

B) $b \log_9 y$

C) $-9 \log_b y$

D) $9 \log_b y$

Solve the system of equations.

95) $\begin{cases} 4x^2 - 16y^2 = 64 \\ 4x^2 + 9y^2 = 36 \end{cases}$

95) _____

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

B) (-3, 0), (3, 0)

C) (0, 2), (0, -2)

D) No solution

Find the square root. If it is not a real number, say so.

96) $\sqrt{\frac{16}{4}}$

96) _____

A) 4

B) 8

C) $\pm \frac{1}{2}$

D) ± 2

Solve the equation for the indicated variable.

97) $A = P(1 + nr); r$

97) _____

A) $r = \frac{P - A}{Pn}$

B) $r = \frac{A}{n}$

C) $r = \frac{Pn}{A - P}$

D) $r = \frac{A - P}{Pn}$

Determine whether the ratios are equal.

98) $\frac{2}{3} = \frac{?}{27}$

98) _____

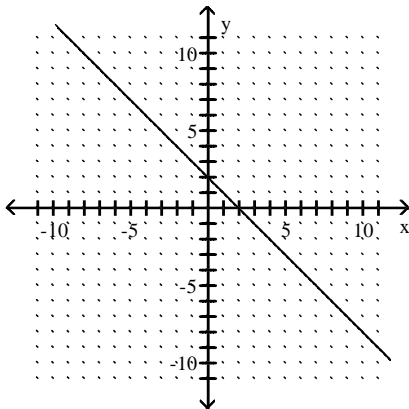
A) Yes

B) No

Write the equation of the line in slope-intercept form.

99)

99) _____



A) $y = x + 2$

B) $y = -x - 2$

C) $y = x - 2$

D) $y = -x + 2$

Use long division to divide the polynomials.

100) $\frac{8x^2 - 6x - 5}{4x - 5}$

100) _____

A) $2x + 1$

B) $x - 1 + \frac{3}{4x - 5}$

C) $2x + 1 + \frac{3}{4x - 5}$

D) $2x - 2$

Answer Key

Testname: ALGEBRA

- 1) B
Objective: (1.3) Solve Apps: Properties of Real Numbers
- 2) C
Objective: (1.2) Simplify Fraction to Lowest Terms
- 3) B
Objective: (1.4) Divide Signed Fractions
- 4) B
Objective: (1.5) Identify Base and Exponent
- 5) D
Objective: (1.7) Identify Coefficient of Term
- 6) D
Objective: (1.7) Use Distributive Property to Write
- 7) A
Objective: (1.5) Evaluate Using Order of Operations IV
- 8) B
Objective: (2.1) Determine Whether Equation is Identity
- 9) D
Objective: (2.1) Solve Apps: Convert Between Fahrenheit
- 10) A
Objective: (2.2) Solve Equation Using Addition Principle
- 11) D
Objective: (2.6) Solve and Graph Inequality
- 12) D
Objective: (2.2) Solve Equation Using Addition Principle
- 13) B
Objective: (2.3) Solve Equation Using Multiplication
- 14) C
Objective: (2.6) Solve and Graph Inequality
- 15) A
Objective: (3.2) Solve Percent Sentence
- 16) D
Objective: (3.3) Solve Apps: Numbers
- 17) B
Objective: (3.3) Solve Apps: Geometry
- 18) B
Objective: (3.1) Determine Whether Ratios are Equal (Y/N)
- 19) A
Objective: (3.5) Solve Apps: Mixture
- 20) C
Objective: (3.3) Solve Apps: General
- 21) B
Objective: (4.3) Find x- and y-Intercepts
- 22) C
Objective: (4.6) Graph Linear Inequality
- 23) B
Objective: (4.7) Determine if Relation is Function (Ordered
- 24) A
Objective: (4.2) Solve Apps: Graphing Linear Equations
- 25) B
Objective: (4.7) Determine if Relation is Function (Ordered
- 26) D
Objective: (4.5) Write Equation of Parallel Line
- 27) A
Objective: (5.1) Write Number in Scientific Notation
- 28) B
Objective: (5.2) Combine Like Terms (One Variable)
- 29) B
Objective: (5.1) Write Number in Standard Form
- 30) C
Objective: (5.3) Add Two Polynomials (Two or Three
- 31) B
Objective: (5.5) Multiply Conjugate Binomials
- 32) B
Objective: (6.4) Factor Difference of Cubes
- 33) D
Objective: (6.6) Solve Apps: Geometry
- 34) B
Objective: (6.3) Factor Trinomial with Lead Coefficient
- 35) D
Objective: (6.2) Factor Trinomial (Two Variables)
- 36) D
Objective: (6.4) Factor Perfect Square Trinomial
- 37) A
Objective: (7.2) Solve Apps: Convert American Units of
- 38) D
Objective: (7.1) Simplify Rational Expression II
- 39) A
Objective: (7.1) Evaluate Rational Expression
- 40) D
Objective: (7.1) Evaluate Rational Expression
- 41) D
Objective: (8.4) Graph Nonlinear Function
- 42) C
Objective: (8.3) Solve and Graph Absolute Value
- 43) D
Objective: (8.1) Find Intersection or Union of Sets
- 44) D
Objective: (8.1) Graph Compound Inequality (And)
- 45) B
Objective: (9.7) Identify Mistake in Graph
- 46) A
Objective: (9.6) Evaluate Determinant of 2×2 Matrix

Answer Key

Testname: ALGEBRA

- 47) A
Objective: (9.6) Use Cramer's Rule to Solve System of
- 48) A
Objective: (9.4) Decide if Ordered Triple Is Solution to
- 49) B
Objective: (10.6) Solve Radical Equation I
- 50) B
Objective: (10.1) Evaluate Higher-Order Root
- 51) D
Objective: (10.3) Simplify Radical Expression
- 52) B
Objective: (10.3) Simplify Radical Expression
- 53) B
Objective: (11.3) Solve Using Substitution
- 54) D
Objective: (11.5) Solve and Graph Quadratic Inequality
- 55) C
Objective: (11.1) Solve Equation of Form $(x + a)^2 = b$
- 56) A
Objective: (12.1) Determine Whether Functions are
- 57) D
Objective: (12.4) Use Power Rule to Write Logarithm to a
- 58) B
Objective: (12.6) Solve Exponential Equation
- 59) C
Objective: (13.3) Solve Nonlinear System of Equations by
- 60) D
Objective: (13.4) Graph Solution Set of System of
- 61) B
Objective: (13.1) Tech: Graph Circle Using Graphing
- 62) D
Objective: (1.3) Find Additive Inverse
- 63) A
Objective: (1.3) Add or Subtract with Absolute Values
- 64) C
Objective: (1.5) Evaluate Using Order of Operations I
- 65) B
Objective: (2.5) Translate to Equation and Solve (No
- 66) A
Objective: (2.6) Solve and Graph Inequality
- 67) C
Objective: (3.3) Solve Apps: Geometry
- 68) A
Objective: (3.2) Write Percent as Decimal
- 69) C
Objective: (4.3) Find x- and y-Intercepts
- 70) B
Objective: (4.5) Write Equation of Perpendicular Line
- 71) D
Objective: (5.3) Add Two Polynomials (Two or Three
- 72) D
Objective: (5.5) Multiply Polynomial by Monomial
- 73) D
Objective: (6.6) Solve Apps: Geometry
- 74) B
Objective: (6.4) ^Factor Completely
- 75) B
Objective: (7.7) Solve Apps: Direct Variation
- 76) A
Objective: (7.6) Determine If Given Value Is Solution
- 77) B
Objective: (8.4) Identify Domain and Range of Relation
- 78) C
Objective: (9.5) Solve Apps: Translate Problem and Solve
- 79) D
Objective: (10.4) Solve Apps: Find Perimeter of Geometric
- 80) A
Objective: (11.2) Write Quadratic Equation in Standard
- 81) C
Objective: (12.6) Solve Apps: Logarithmic and Exponential
- 82) C
Objective: (13.3) Solve Nonlinear System of Equations by
- 83) B
Objective: (1.4) Divide Signed Whole Numbers
- 84) D
Objective: (2.4) Solve Formula for Indicated Variable II
- 85) A
Objective: (3.1) Find Missing Lengths in Similar Figures
- 86) A
Objective: (4.1) Determine Coordinates of Points on Graph
- 87) D
Objective: (5.4) Multiply Monomials Raised to Powers
- 88) A
Objective: (6.1) Find Greatest Common Factor of
- 89) B
Objective: (7.2) Solve Apps: Currency Conversion
- 90) D
Objective: (8.1) Solve and Graph Compound Inequality
- 91) D
Objective: (9.1) Solve System of Equations Graphically
- 92) A
Objective: (10.7) Write Quotient of Complex Numbers in

Answer Key

Testname: ALGEBRA

93) D

Objective: (11.2) Find x- and y-Intercepts of Quadratic

94) C

Objective: (12.4) Use Power Rule to Write as a Multiple of

95) D

Objective: (13.3) Solve Nonlinear System of Equations by

96) D

Objective: (1.5) Find Square Root

97) D

Objective: (2.4) Solve Formula for Indicated Variable I

98) A

Objective: (3.1) Determine Whether Ratios are Equal (Y/N)

99) D

Objective: (4.4) Write Equation of Line from Graph

100) A

Objective: (5.6) Divide Polynomial by Binomial II

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Practicing Elementary & Intermediate Algebra

- 1) _____
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