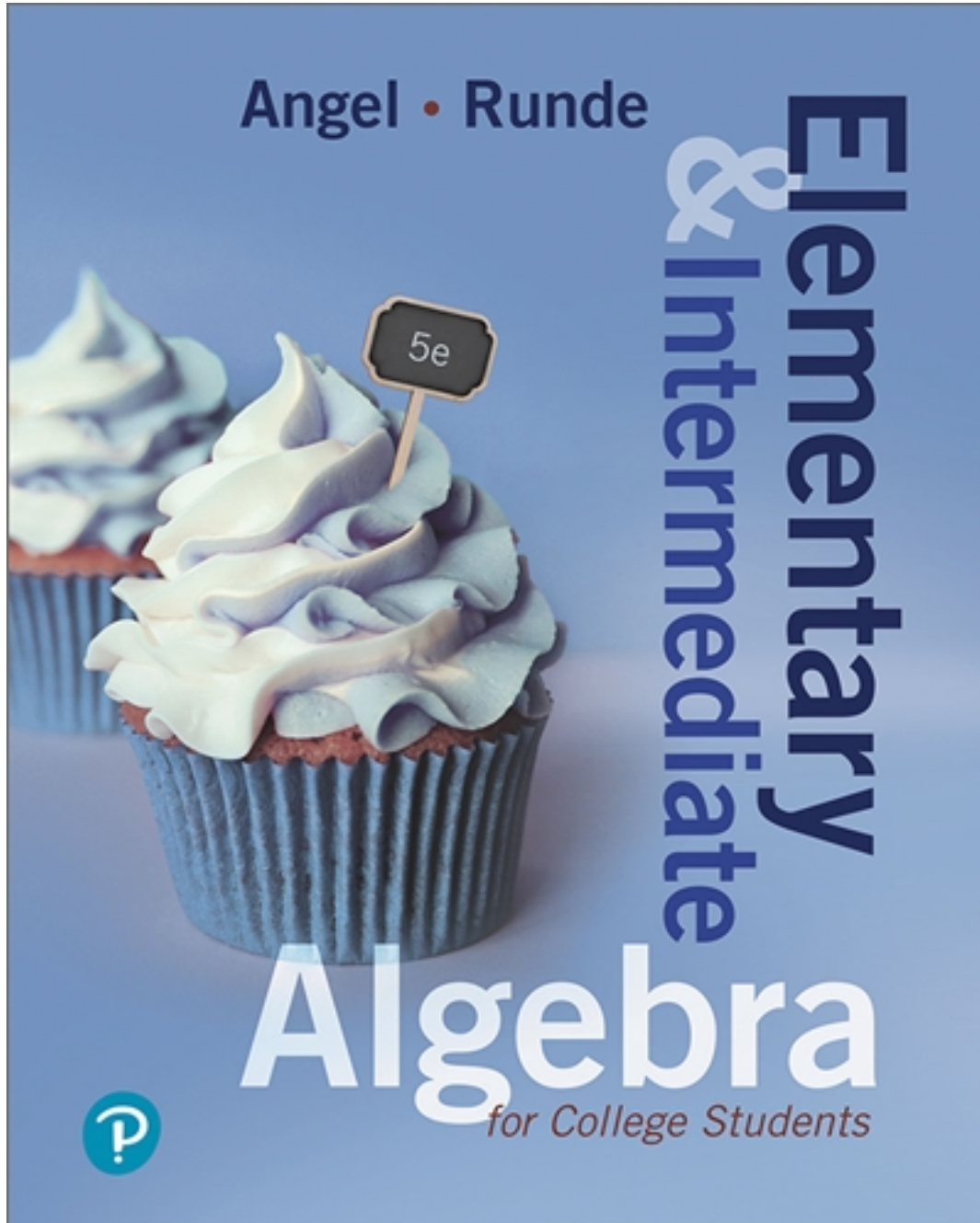


Test Bank for Elementary and Intermediate Algebra for College Students 5th Edition by Angel

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Test Bank

Exam

Name _____

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

For the given expression, identify the terms and the numerical coefficients.

- 1) $-5x^4 + x^2 - x - 4 - 3x^2$ 1) _____
- A) Constant terms: -4
Variable terms: $-5x^4, x^2, -x, -3x^2$
Coefficients: $-5, -4, -3$
- B) Constant terms: -4
Variable terms: $-5x^4, x^2, -x, -3x^2$
Coefficients: $-5, 1, -1, -4, -3$
- C) Constant terms: $-5, -4, -3$
Variable terms: x^4, x^2, x
Coefficients: $-5, 1, -1, -3$
- D) Constant terms: $-5, -4, -3$
Variable terms: x^4, x^2, x
Coefficients: $-5, -4, -3$
- 2) $-\frac{2}{3}m + \frac{1}{2}n + \frac{5}{6}m + \frac{4}{3}n$ 2) _____
- A) Constant terms: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
Variable terms: $-\frac{2}{3}m, \frac{1}{2}n, \frac{5}{6}m, \frac{4}{3}n$
Coefficients: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
- B) Constant terms: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
Variable terms: m, n, m, n
Coefficients: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
- C) Constant terms: None
Variable terms: $-\frac{2}{3}m, \frac{1}{2}n, \frac{5}{6}m, \frac{4}{3}n$
Coefficients: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
- D) Constant terms: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
Variable terms: m, n
Coefficients: $-\frac{2}{3}, \frac{1}{2}, \frac{5}{6}, \frac{4}{3}$
- 3) $3x(y+8) - 2(y+8)$ 3) _____
- A) Constant terms: None
Variable terms: $3x(y+8), -2(y+8)$
Coefficients: $3, -2$
- B) Constant terms: None
Variable terms: $3x, 3(y+8), -2(y+8)$
Coefficients: $3, -2$
- C) Constant terms: $8, -2$
Variable terms: $3xy, -2y$
Coefficients: $3, -2$
- D) Constant terms: -2
Variable terms: $3x, (y+8)$
Coefficients: $3, -2$
- 4) $x^2 - y^2 + 2xy + 6$ 4) _____
- A) Constant terms: 6
Variable terms: $x^2, -y^2, 2xy$
Coefficients: $1, -1, 2, 6$
- B) Constant terms: $2, -6$
Variable terms: $x^2, -y^2, xy$
Coefficients: 2
- C) Constant terms: 6
Variable terms: $x^2, y^2, 2x, y$
Coefficients: $1, -1, 2, 6$
- D) Constant terms: $2, 6$
Variable terms: x^2, y^2, xy
Coefficients: 2

Determine whether the terms are like or unlike.

- 5) $13z, -8z$ 5) _____
- A) like
- B) unlike

- | | | |
|---------------------------------|-----------|-----------|
| 6) $12a^9, 12a^7$
A) like | B) unlike | 6) _____ |
| 7) $7m, 6m, -3m$
A) like | B) unlike | 7) _____ |
| 8) $8b, 11, 13a$
A) like | B) unlike | 8) _____ |
| 9) $8xy^3z, -20xy^2$
A) like | B) unlike | 9) _____ |
| 10) $ab, 13ba$
A) like | B) unlike | 10) _____ |
| 11) $6, 2, -9$
A) like | B) unlike | 11) _____ |

Simplify.

- | | | | | |
|---|-------------------|--|-----------------|-----------|
| 12) $8a - 2a + 6$
A) $6a + 6$ | B) $12a$ | C) $-6a + 6$ | D) $10a + 6$ | 12) _____ |
| 13) $-3b + 6b$
A) $-9b$ | B) $3b$ | C) $3b^2$ | D) $-3b$ | 13) _____ |
| 14) $-8y - 6y$
A) $-2y$ | B) $-14y$ | C) $14y$ | D) $-14y^2$ | 14) _____ |
| 15) $-5y + 1 - 7 + 7 + y - 1$
A) $-4y$ | B) $-4y - 1$ | C) $-6y + 1$ | D) $-6y$ | 15) _____ |
| 16) $-2x^8 - 3x^8$
A) $-6x^8$ | B) $-5x^8$ | C) $-5x^{16}$ | D) $-5x^{64}$ | 16) _____ |
| 17) $-0.5x - 0.9x - 0.7x$
A) $-2.6x$
C) $-9x$ | | B) $-0.5x - 0.9x - 0.7x$
D) $-2.1x$ | | 17) _____ |
| 18) $-2y^5 - 8y^5$
A) $-10y^5$ | B) $-2y^5 - 8y^5$ | C) $6y^5$ | D) $-10y^{10}$ | 18) _____ |
| 19) $8z + 6 - 2z + 3$
A) $6z + 9$ | B) $15z$ | C) $10z + 9$ | D) $6z + 3$ | 19) _____ |
| 20) $5.9k - 1.3 - 3.5k + 6 + 2.1k$
A) $4.5k + 4.7$ | B) $11.5k + 4.7$ | C) $4.5k - 4.7$ | D) $4.5k + 7.3$ | 20) _____ |

- 21) $-\frac{1}{2}x + \frac{3}{4} - \frac{3}{4}x$ 21) _____
 A) $\frac{1}{4}x - \frac{3}{4}$ B) $\frac{3}{8}x + \frac{3}{4}$ C) $-\frac{5}{4}x + \frac{3}{4}$ D) $-\frac{1}{2}x$
- 22) $-\frac{2}{3}x + \frac{3}{7} + \frac{3}{7}x - 5$ 22) _____
 A) $-\frac{5}{21}x + \frac{38}{7}$ B) $-\frac{5}{21}x - \frac{32}{7}$ C) $-\frac{23}{21}x - \frac{32}{7}$ D) $\frac{23}{21}x - \frac{32}{7}$
- 23) $\frac{2}{3}x + \frac{3}{4} + (-\frac{3}{4}x) + \frac{1}{8}$ 23) _____
 A) $-\frac{1}{2}x + \frac{3}{32}$ B) $-\frac{1}{12}x + \frac{3}{32}$ C) $-\frac{1}{12}x + \frac{7}{8}$ D) $\frac{17}{12}x + \frac{7}{8}$
- 24) $\frac{1}{2}x + \frac{3}{5} + \frac{3}{5}x + \frac{1}{8}$ 24) _____
 A) $\frac{3}{5}x + \frac{3}{40}$ B) $\frac{11}{10}x + \frac{3}{40}$ C) $\frac{11}{10}x + \frac{29}{40}$ D) $-\frac{1}{10}x + \frac{29}{40}$
- 25) $-\frac{3}{4}x - \frac{11}{12}y + \frac{5}{4}x - \frac{1}{6}y - \frac{1}{2}x + \frac{13}{12}y$ 25) _____
 A) $\frac{11}{12}x + \frac{3}{4}y$ B) $\frac{11}{12}x + \frac{11}{12}y$ C) $\frac{13}{12}x + \frac{11}{12}y$ D) 0
- Use the distributive property to remove parentheses.**
- 26) $-7(a + x)$ 26) _____
 A) $-7ax$ B) $-7a - 7x$ C) $-7a + x$ D) $-7a + 7x$
- 27) $6(3n + 4)$ 27) _____
 A) $18n + 4$ B) $42n$ C) $18n + 24$ D) $9n + 10$
- 28) $-8(10n + 3)$ 28) _____
 A) $-104n$ B) $2n - 5$ C) $-80n + 3$ D) $-80n - 24$
- 29) $\frac{1}{3}(9x - 6)$ 29) _____
 A) $3x - 6$ B) $27x - 18$ C) $3x - 2$ D) x
- 30) $9(5x + 5y + 2)$ 30) _____
 A) $45x + 45y + 2$ B) $45x + 45y + 18$ C) $45x + 5y + 18$ D) $45x + 5y + 2$
- 31) $-\frac{4}{3}(3y + 3x - 3z)$ 31) _____
 A) $-4y + 4x + 4z$ B) $-4y + 3x - 3z$ C) $-4y - 4x - 4z$ D) $-4y - 4x + 4z$

- 32) $0.3(3x + 0.4)$ 32) _____
 A) $0.9x + 0.4$ B) $10x + 0.12$ C) $0.9x + 0.12$ D) $3.3x + 0.7$
- 33) $1.4(3.2x - 4.5y + 3.4)$ 33) _____
 A) $4.6x - 3.1y + 4.8$ B) $4.48x - 6.3y + 4.76$
 C) $4.48x - 4.5y + 3.4$ D) $2.29x - 3.21y + 2.43$
- 34) $-(6x + 9y)$ 34) _____
 A) $6x - 9y$ B) $6x + 9y$ C) $-6x + 9y$ D) $-6x - 9y$
- 35) $(-5m + 9n - 9p)$ 35) _____
 A) $5m - 9n - 9p$ B) $-5m + 9n + 9p$ C) $5m - 9n + 9p$ D) $-5m + 9n - 9p$
- Simplify.**
- 36) $-3(9r + 7) + 5(9r + 10)$ 36) _____
 A) $18r + 29$ B) $6r + 4$ C) $-48r$ D) $18r + 7$
- 37) $-6(3r + 5) + 8(8r + 2)$ 37) _____
 A) $-48r$ B) $-3r - 1$ C) $46r - 14$ D) $46r + 5$
- 38) $-8 + 9(14 - 6m)$ 38) _____
 A) $126 - 54m$ B) $118 - 54m$ C) $118 - 6m$ D) $118 + 54m$
- 39) $-6(2x - 8) - 4x + 6$ 39) _____
 A) $8x + 54$ B) $-16x + 54$ C) $16x + 54$ D) $-16x - 42$
- 40) $-2(10r + 7) + 8(2r + 9)$ 40) _____
 A) $-4r + 58$ B) $-4r + 7$ C) $-34r$ D) $8r + 5$
- 41) $-2x - 4(x - 5y)$ 41) _____
 A) $-6x - 20y$ B) $-6x - 5y$ C) $-3x + 20y$ D) $-6x + 20y$
- 42) $-\left(\frac{6}{7}x - \frac{1}{9}\right) + 2x$ 42) _____
 A) $\frac{20}{7}x + \frac{1}{9}$ B) $\frac{79}{63}x$ C) $-\frac{4}{7}x - \frac{1}{9}$ D) $\frac{8}{7}x + \frac{1}{9}$
- 43) $0.3 - 0.3(y + 5) + 0.8 - 2$ 43) _____
 A) $-0.3y - 2.4$ B) $-0.3y - 5.9$ C) $0.3y + 0.6$ D) $y + 1.6$

Identify the equation as linear or nonlinear.

- 44) $5x - 9y = 1$ 44) _____
 A) linear B) nonlinear
- 45) $y = -3x + 8$ 45) _____
 A) linear B) nonlinear

46) $y = x^3 - 8$ 46) _____
 A) nonlinear B) linear

47) $y - x = 9$ 47) _____
 A) nonlinear B) linear

Solve the problem.

48) Is $p = 5$ a solution of $p + 7 = 12$? 48) _____
 A) Yes B) No

49) Is $x = 9$ a solution of $x - 7 = 2$? 49) _____
 A) Yes B) No

50) Is $x = 7$ a solution of $3x + 3 = 26$? 50) _____
 A) Yes B) No

51) Is $y = 6$ a solution of $2y + 4(y - 4) = 20$? 51) _____
 A) Yes B) No

52) Is $x = 3$ a solution of $6x + 7x - 3 = 36$? 52) _____
 A) Yes B) No

53) Is $k = 1$ a solution of $3k - 5 = 2k - 6$? 53) _____
 A) Yes B) No

54) Is $z = \frac{13}{2}$ a solution of $-(z - 9) - (z - 1) = 2z - 16$? 54) _____
 A) Yes B) No

Determine whether the given equations are equivalent equations.

55) $3x - 5 = 7$, $3x = 12$, $x = 4$ 55) _____
 A) Equivalent equations B) Not equivalent equations

56) $3x + 5 = 7$, $3x = 12$, $x = 4$ 56) _____
 A) Equivalent equations B) Not equivalent equations

Solve the equation and check your solution.

57) $x - 18 = -5$ 57) _____
 A) $x = -23$ B) $x = 23$ C) $x = -13$ D) $x = 13$

58) $-11 = x - 13$ 58) _____
 A) $x = 2$ B) $x = -24$ C) $x = -2$ D) $x = 24$

59) $t - 8 = 10$ 59) _____
 A) $t = -18$ B) $t = -2$ C) $t = 2$ D) $t = 18$

60) $7.6 + x = 14.9$ 60) _____
 A) $x = 7.3$ B) $x = 22.5$ C) $x = 22$ D) $x = 6.8$

- 61) $-1.1 + x = 12$ 61) _____
 A) $x = 13.1$ B) $x = 10.4$ C) $x = 10.9$ D) $x = 12.6$
- 62) $7.1 + x = 12.9$ 62) _____
 A) $x = 5.8$ B) $x = 19.5$ C) $x = 20$ D) $x = 5.3$
- 63) $0.1 = 20 - x$ 63) _____
 A) $x = 19.9$ B) $x = 19.6$ C) $x = 19.4$ D) $x = 20.1$
- 64) $7.8 = 21.9 - x$ 64) _____
 A) $x = 13.6$ B) $x = 14.1$ C) $x = 29.7$ D) $x = 29.2$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 65) There are no exercises for this objective. 65) _____

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

Find the reciprocal.

- 66) 20 66) _____
 A) -20 B) 1 C) $\frac{1}{20}$ D) $-\frac{1}{20}$
- 67) $\frac{1}{9}$ 67) _____
 A) -9 B) $-\frac{1}{9}$ C) 9 D) 1
- 68) $\frac{7}{8}$ 68) _____
 A) 8 B) $-\frac{7}{8}$ C) $\frac{8}{7}$ D) $-\frac{8}{7}$
- 69) $\frac{7}{4}$ 69) _____
 A) 4 B) $-\frac{7}{4}$ C) $\frac{4}{7}$ D) $-\frac{4}{7}$

Solve the equation and check your solution.

- 70) $\frac{1}{7}x = 7$ 70) _____
 A) $x = 14$ B) $x = 1$ C) $x = 49$ D) $x = 13$
- 71) $\frac{1}{16}a = 0$ 71) _____
 A) $a = -16$ B) $a = 0$ C) $a = 1$ D) $a = 16$

72) $\frac{n}{4} = 10$	A) $n = 14$	B) $n = 2$	C) $n = 40$	D) $n = 13$	72) _____
73) $-7a = 56$	A) $a = -63$	B) $a = 1$	C) $a = 63$	D) $a = -8$	73) _____
74) $-7x = -42$	A) $x = 35$	B) $x = 2$	C) $x = 6$	D) $x = -35$	74) _____
75) $\frac{4}{7}t = \frac{1}{8}$	A) $t = \frac{32}{7}$	B) $t = -\frac{7}{32}$	C) $t = \frac{7}{8}$	D) $t = \frac{7}{32}$	75) _____
76) $\frac{n}{3} = 9$	A) $n = 27$	B) $n = 11$	C) $n = 3$	D) $n = 12$	76) _____
77) $-\frac{1}{9}k = \frac{4}{9}$	A) $k = 8$	B) $k = -9$	C) $k = -4$	D) $k = 7$	77) _____
78) $\frac{x}{4} = 10$	A) $x = 2$	B) $x = 13$	C) $x = 14$	D) $x = 40$	78) _____
79) $4x = -36$	A) $x = -40$	B) $x = 40$	C) $x = 1$	D) $x = -9$	79) _____
80) $-64.0 = -8.0x$	A) $x = 8$	B) $x = 2$	C) $x = 56$	D) $x = -56$	80) _____
81) $-8x = -64$	A) $x = 8$	B) $x = -56$	C) $x = 2$	D) $x = 56$	81) _____
82) $\frac{3}{8}x = \frac{4}{9}$	A) $x = -\frac{32}{9}$	B) $x = \frac{27}{32}$	C) $x = -\frac{32}{27}$	D) $x = \frac{32}{27}$	82) _____
83) $-12.9 = -4.3x$	A) $x = 8.6$	B) $x = -8.6$	C) $x = 3$	D) $x = 2$	83) _____
84) $-4.65 = 1.55v$	A) $v = -\frac{1}{3}$	B) $v = -7.21$	C) $v = -3$	D) $v = 3$	84) _____

- 85) $-y = 3$ 85) _____
 A) $y = 0$ B) $y = -3$ C) $y = -1$ D) $y = 3$
- 86) $-x = -\frac{3}{2}$ 86) _____
 A) $x = -\frac{3}{2}$ B) $x = \frac{2}{3}$ C) $x = \frac{3}{2}$ D) $x = -\frac{2}{3}$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

- 87) There are no exercises for this objective. 87) _____

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

Solve the equation.

- 88) $5x - (3x - 1) = 2$ 88) _____
 A) $x = \frac{1}{2}$ B) $x = -\frac{1}{8}$ C) $x = -\frac{1}{2}$ D) $x = \frac{1}{8}$
- 89) $8r + 7 = 39$ 89) _____
 A) $r = 4$ B) $r = 2$ C) $r = 28$ D) $r = 24$
- 90) $6n - 3 = 15$ 90) _____
 A) $n = 12$ B) $n = 5$ C) $n = 3$ D) $n = 16$
- 91) $21 = 2x + 9$ 91) _____
 A) $x = 14$ B) $x = 10$ C) $x = 1$ D) $x = 6$
- 92) $6(k + 2) - (5k + 5) = 8$ 92) _____
 A) $k = 15$ B) $k = -1$ C) $k = 1$ D) $k = -11$
- 93) $7x - (2x - 1) = 2$ 93) _____
 A) $-\frac{1}{9}$ B) $\frac{1}{5}$ C) $-\frac{1}{5}$ D) $\frac{1}{9}$
- 94) $3(4x - 1) = 12$ 94) _____
 A) $\frac{5}{4}$ B) $\frac{3}{4}$ C) $\frac{11}{12}$ D) $\frac{13}{12}$
- 95) $x - 5(2x + 1) = 40$ 95) _____
 A) $x = -\frac{7}{3}$ B) $x = -\frac{41}{9}$ C) $x = -\frac{35}{9}$ D) $x = -5$
- 96) $3x - 5x + 12x = -74$ 96) _____
 A) $x = -18.5$ B) $x = -7.4$ C) $x = -0.1$ D) $x = -84$

- 97) $\frac{a}{4} - \frac{1}{4} = -6$ 97) _____
 A) $a = 23$ B) $a = -23$ C) $a = 25$ D) $a = -25$
- 98) $0.70x - 0.50(80 + x) = -0.35(80)$ 98) _____
 A) $x = 30$ B) $x = 70$ C) $x = 60$ D) $x = 50$
- 99) $\frac{f}{6} - 4 = 1$ 99) _____
 A) $f = -30$ B) $f = -18$ C) $f = 30$ D) $f = 18$
- 100) $\frac{2x}{5} - \frac{x}{3} = 2$ 100) _____
 A) $x = 30$ B) $x = 60$ C) $x = -30$ D) $x = -60$
- 101) $\frac{b}{13} - 7 = -3$ 101) _____
 A) $b = -54$ B) $b = -52$ C) $b = 52$ D) $b = 54$
- 102) $24.4 = -28.9 - n$ 102) _____
 A) $n = 53.3$ B) $n = -4.5$ C) $n = 4.5$ D) $n = -53.3$
- 103) $5.35 - 4.53x - 1.2x = 24.259$ 103) _____
 A) $x = -3.3$ B) $x = 7.28$ C) $x = -5.17$ D) $x = 4.3$
- 104) $\frac{1}{12} = \frac{1}{3}(t - 5)$ 104) _____
 A) $t = \frac{61}{12}$ B) $t = \frac{21}{4}$ C) $t = -\frac{19}{4}$ D) $t = \frac{2}{3}$
- 105) $4(y + 7) = 5(y - 4)$ 105) _____
 A) $y = 48$ B) $y = -8$ C) $y = -48$ D) $y = 8$
- 106) $-5x + 6(-3x - 4) = -42 - 5x$ 106) _____
 A) $x = \frac{11}{3}$ B) $x = \frac{33}{14}$ C) $x = -1$ D) $x = 1$
- 107) $(y - 8) - (y + 2) = 5y$ 107) _____
 A) $y = -\frac{5}{3}$ B) $y = -2$ C) $y = -\frac{5}{4}$ D) $y = -\frac{3}{5}$
- 108) $4p = 8(7p + 5)$ 108) _____
 A) $p = -\frac{10}{13}$ B) $p = 10$ C) $p = \frac{10}{13}$ D) $p = \frac{13}{10}$

- 109) $13(3c - 4) = 4c - 4$ 109) _____
 A) $c = \frac{8}{5}$ B) $c = \frac{48}{43}$ C) $c = -\frac{48}{35}$ D) $c = \frac{48}{35}$
- 110) $5(y + 7) = 6(y - 6)$ 110) _____
 A) $y = -1$ B) $y = 1$ C) $y = 71$ D) $y = -71$
- 111) $4(2z - 3) = 7(z + 3)$ 111) _____
 A) $z = -9$ B) $z = 33$ C) $z = 13$ D) $z = 9$
- 112) $3p = 7(3p + 4)$ 112) _____
 A) $p = \frac{14}{9}$ B) $p = -\frac{14}{9}$ C) $p = \frac{28}{3}$ D) $p = \frac{9}{14}$
- 113) $2(2z - 5) = 3(z + 5)$ 113) _____
 A) $z = 7$ B) $z = 25$ C) $z = 5$ D) $z = -5$
- 114) $-4x + 4(2x - 6) = -15 - 5x$ 114) _____
 A) $x = -\frac{13}{3}$ B) $x = -1$ C) $x = 39$ D) $x = 1$
- 115) $\frac{r+6}{3} = \frac{r+8}{6}$ 115) _____
 A) $r = -12$ B) $r = 3$ C) $r = 4$ D) $r = -4$
- 116) $\frac{3(y-2)}{5} = 1 - 3y$ 116) _____
 A) $y = \frac{7}{6}$ B) $y = \frac{11}{6}$ C) $y = \frac{11}{18}$ D) $y = -\frac{11}{18}$
- 117) $-0.02y + 0.13(1100 - y) = 0.10y$ 117) _____
 A) $y = 357.5$ B) $y = 1144$ C) $y = 572$ D) $y = 35.75$
- 118) $0.25(40) + 0.80x = 0.60(40 + x)$ 118) _____
 A) $x = 70$ B) $x = 80$ C) $x = 60$ D) $x = 35$
- 119) $\frac{2x}{5} = \frac{x}{3} + 3$ 119) _____
 A) $x = -90$ B) $x = 45$ C) $x = 90$ D) $x = -45$
- 120) $\frac{r}{5} + \frac{6}{5} = \frac{r}{7} + \frac{8}{7}$ 120) _____
 A) $r = -2$ B) $r = -1$ C) $r = 2$ D) $r = 1$

- 121) $\frac{7}{3} - \frac{x}{3} = \frac{x}{4}$ 121) _____
 A) $x = \frac{28}{5}$ B) $x = 7$ C) $x = -4$ D) $x = 4$
- 122) $\frac{y}{5} - \frac{2}{5} = \frac{1}{3} - y$ 122) _____
 A) $y = \frac{11}{18}$ B) $y = -\frac{11}{18}$ C) $y = \frac{11}{6}$ D) $y = \frac{7}{6}$
- 123) $7.7m + 1.2 - 2.3m = -3.5 + 5.4m + 4.7$ 123) _____
 A) no solution B) $m = 0$
 C) all real numbers D) $m = -0.5$
- 124) $5x - 8 - 8x - 7 = 6x - 9x - 18$ 124) _____
 A) no solution B) $x = 0$
 C) $x = -256$ D) all real numbers
- 125) $7(x + 7) = (7x + 49)$ 125) _____
 A) all real numbers B) no solution
 C) $x = 98$ D) $x = 0$
- 126) $3(x + 5) - (3x + 15) = 0$ 126) _____
 A) $x = 0$ B) all real numbers
 C) no solution D) $x = 5$
- 127) $\frac{1}{3}(6x - 9) = 6\left(\frac{1}{3}x - \frac{1}{2}\right) + 6$ 127) _____
 A) all real numbers B) no solution
 C) $x = 0$ D) $x = \frac{3}{2}$
- 128) $\frac{x}{9} - 4 = \frac{x}{9}$ 128) _____
 A) $x = 0$ B) all real numbers
 C) $x = 18$ D) no solution

Use the simple interest formula.

- 129) Kevin invested part of his \$10,000 bonus in a certificate of deposit that paid 6% annual simple interest, and the remainder in a mutual fund that paid 11% annual simple interest. If his total interest for that year was \$700, how much did Kevin invest in the mutual fund? 129) _____
 A) \$3000 B) \$8000 C) \$2000 D) \$1000

- 130) How can \$56,000 be invested, part at 4% annual simple interest and the remainder at 10% annual simple interest, so that the interest earned by the two accounts is equal at the end of the year? 130) _____
- A) \$30,000 invested at 4%; \$26,000 invested at 10%
 B) \$16,000 invested at 4%; \$40,000 invested at 10%
 C) \$26,000 invested at 4%; \$30,000 invested at 10%
 D) \$40,000 invested at 4%; \$16,000 invested at 10%

- 131) Melissa invested a sum of money at 3% annual simple interest. She invested three times that sum at 5% annual simple interest. If her total yearly interest from both investments was \$5400, how much was invested at 3%? 131) _____
- A) \$67,500 B) \$30,000 C) \$202,500 D) \$22,500

- 132) If \$2000 is invested at 10% simple annual interest, how much should be invested at 12% annual simple interest so that the total yearly income from both investments is \$5000? 132) _____
- A) \$4760 B) \$47,600 C) \$4000 D) \$40,000

- 133) Alice invested some money at 11% simple interest. At the end of the year the total amount of her original principal and the interest was \$9768. How much did she originally invest? 133) _____
- A) \$8800 B) \$107,448 C) \$888 D) \$968

- 134) Find the interest on \$4800 borrowed at an interest rate of 4% for one year. 134) _____
- A) \$1920 B) \$4992 C) \$1200 D) \$192

Use the distance formula.

- 135) A contestant in a 20-mile race finished in 5 hours. What was her average rate during the race? (Round to the nearest tenth, if necessary.) 135) _____
- A) 15 mph B) 4.0 mph C) 0.3 mph D) 100 mph

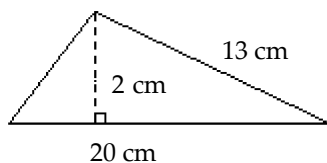
- 136) How long would it take to drive 1500 kilometers if your average rate of speed was 100 kilometers per hour? 136) _____
- A) 160 hr B) 15 hr C) 1500 hr D) 16 hr

- 137) Ashley drove home from school for Thanksgiving. She traveled 112 miles in 2 hours. What was her average speed? 137) _____
- A) 61 mph B) 53 mph C) 56 mph D) 110 mph

- 138) Chris rode his bike at an average speed of 13.2 miles per hour for 4 hours. How far did he bike? 138) _____
- A) 52.8 mi B) 13.2 mi C) 66 mi D) 3.3 mph

Determine the area or volume as indicated. Use 3.14 for π when necessary.

- 139) 139) _____

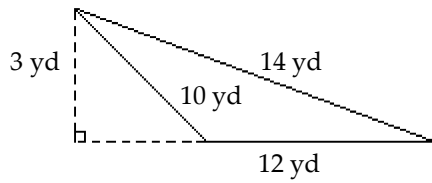


Find the area.

- A) 130 cm^2 B) 13 cm^2 C) 40 cm^2 D) 20 cm^2

140)

140) _____



Find the area.

A) 36 yd^2

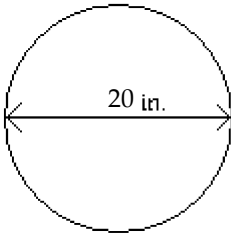
B) 15 yd^2

C) 18 yd^2

D) 21 yd^2

141)

141) _____



Find the area.

A) 62.80 in.^2

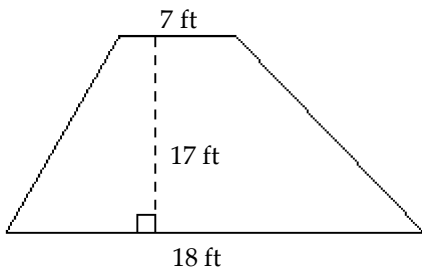
B) 125.60 in.^2

C) 1256.00 in.^2

D) 314.00 in.^2

142)

142) _____



Find the area.

A) 119 ft^2

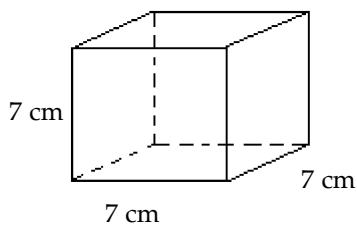
B) 212.5 ft^2

C) 425 ft^2

D) 306 ft^2

143)

143) _____



Find the volume.

A) 343 cm^3

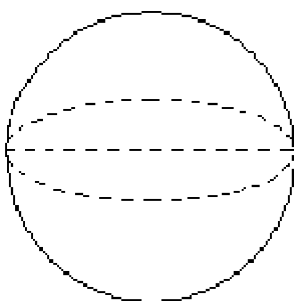
B) 21 cm^3

C) 98 cm^3

D) 49 cm^3

144)

144) _____



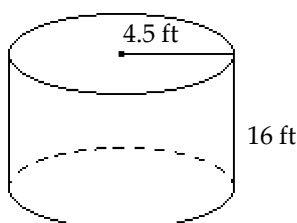
diameter = 6.8 m

Find the volume. Round to the nearest hundredth.

- A) 145.19 m³ B) 24.20 m³ C) 987.32 m³ D) 164.55 m³

145)

145) _____

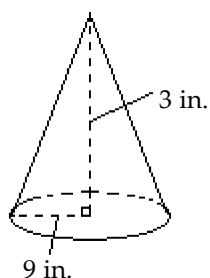


Find the volume.

- A) 226.1 ft³ B) 4069.4 ft³ C) 1017.4 ft³ D) 452.2 ft³

146)

146) _____



Find the volume. Round to the nearest whole unit.

- A) 57 in.³ B) 509 in.³ C) 254 in.³ D) 382 in.³

Use geometry formulas to solve.

147) A circular fountain has a radius of 42 ft. Determine the circumference of the fountain.

147) _____

- A) 263.76 ft B) 131.88 ft C) 65.94 ft D) 5538.96 ft

148) Michael is shipping his mother's birthday gift to her in a rectangular box. If the gift's dimensions are 2 inches long by 5 inches wide by 9 inches high, find the volume of the smallest box that will hold the gift.

148) _____

- A) 14 in.³ B) 16 in.³ C) 90 in.³ D) 180 in.³

Use the formula to find the value of the variable indicated. Use a calculator to save time and where necessary, round your answer to the nearest hundredth.

149) $A = \frac{1}{2}bh$; find b when $A = 16$ and $h = 6$. 149) _____

A) $b = 1.33$

B) $b = 48$

C) $b = 5.33$

D) $b = 0.19$

150) $V = \frac{1}{3}Bh$; find h when $V = 48$ and $B = 12$. 150) _____

A) $h = 0.33$

B) $h = 0.08$

C) $h = 0.75$

D) $h = 12$

151) $d = rt$; find t when $d = 560$ and $t = 8$. 151) _____

A) $t = 70$

B) $t = 552$

C) $t = 0.01$

D) $t = 4480$

152) $P = 2l + 2w$; find l when $P = 24$ and $w = 4$. 152) _____

A) $l = 20$

B) $l = 8$

C) $l = 10$

D) $l = 16$

153) $P = \frac{A}{1 + rt}$; find r when $P = 1650$, $A = 2145$, and $t = 4$. 153) _____

A) $r = 6930$

B) $r = 0.19$

C) $r = 99$

D) $r = 0.08$

Solve for the indicated variable.

154) $A = \frac{1}{2}bh$, for b 154) _____

A) $b = \frac{h}{2A}$

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

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

D) $b = \frac{Ah}{2}$

155) $S = 2\pi rh + 2\pi r^2$, for h 155) _____

A) $h = 2\pi(S - r)$

B) $h = S - r$

C) $h = \frac{S - 2\pi r^2}{2\pi r}$

D) $h = \frac{S}{2\pi r} - 1$

156) $V = \frac{1}{3}Bh$, for h 156) _____

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

B) $h = \frac{3B}{V}$

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

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

157) $F = \frac{9}{5}C + 32$, for C 157) _____

A) $C = \frac{5}{9}(F - 32)$

B) $C = \frac{5}{F - 32}$

C) $C = \frac{F - 32}{9}$

D) $C = \frac{9}{5}(F - 32)$

158) $A = \frac{1}{2}h(a + b)$, for a 158) _____

A) $a = \frac{2A - hb}{h}$

B) $a = \frac{hb - 2A}{h}$

C) $a = \frac{A - hb}{2h}$

D) $a = \frac{2bA - h}{h}$

- 159) $d = rt$, for r _____
 A) $r = d - t$ B) $r = \frac{d}{t}$ C) $r = \frac{t}{d}$ D) $r = dt$
- 160) $P = 2l + 2w$, for l _____
 A) $l = \frac{P - 2w}{2}$ B) $l = P - w$ C) $l = P - 2w$ D) $l = \frac{P - w}{2}$
- 161) $A = P(1 + nr)$, for r _____
 A) $r = \frac{A}{n}$ B) $r = \frac{A - P}{Pn}$ C) $r = \frac{P - A}{Pn}$ D) $r = \frac{Pn}{A - P}$
- 162) $I = Prt$, for r _____
 A) $r = \frac{I}{Pt}$ B) $r = P - tl$ C) $r = \frac{P - I}{1 + t}$ D) $r = \frac{P - 1}{It}$
- 163) $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$, for c _____
 A) $c = a + b$ B) $c = \frac{ab}{a + b}$ C) $c = ab(a + b)$ D) $c = \frac{a + b}{ab}$
- 164) $P = \frac{A}{1 + rt}$, for r _____
 A) $r = \frac{P - 1}{At}$ B) $r = P - tA$ C) $r = \frac{A - P}{Pt}$ D) $r = \frac{P - A}{1 + t}$
- 165) $A = \frac{1}{2}h(B + b)$, for B _____
 A) $B = 2A - bh$ B) $B = \frac{2A + bh}{h}$ C) $B = \frac{A - bh}{h}$ D) $B = \frac{2A - bh}{h}$
- Solve the equation for y .**
- 166) $3x + y = 6$ _____
 A) $y = 3x + 6$ B) $y = 2 - x$ C) $y = \frac{6 - x}{3}$ D) $y = 6 - 3x$
- 167) $15x + 7y = 12$ _____
 A) $y = \frac{15}{7}x - \frac{12}{7}$ B) $y = -\frac{15}{7}x + \frac{12}{7}$ C) $y = 15x - 12$ D) $y = \frac{15}{7}x + \frac{12}{7}$
- 168) $x = 5y + 4$ _____
 A) $y = \frac{1}{5}x - \frac{4}{5}$ B) $y = 5x - 4$ C) $y = x - \frac{4}{5}$ D) $y = \frac{1}{5}x - 4$
- 169) $-4x + 20y = 0$ _____
 A) $y = \frac{x}{5}$ B) $y = -5x$ C) $y = 5x + 4$ D) $y = 5x$

Solve the problem.

170) Use the formula $d = \frac{1}{2}n^2 - \frac{3}{2}n$ to find the number of diagonals in a figure with the given number of sides. 170) _____

5 sides

A) 1

B) 20

C) 14

D) 5

171) Use the formula $C = \frac{5}{9}(F - 32)$ to find the Celsius temperature (C) equivalent to the given Fahrenheit temperature (F). 171) _____

F = 500°

A) C = 295.6°

B) C = 842.4°

C) C = 260°

D) C = 932°

172) Use the formula $F = \frac{9}{5}C + 32$, to find the Fahrenheit temperature (F) equivalent to the given Celsius temperature (C). 172) _____

C = 345°

A) F = 175.4°

B) F = 589°

C) F = 211°

D) F = 653°

173) In chemistry, the ideal gas law is $P = \frac{KT}{V}$ where P is pressure, T is temperature, V is volume, and K is constant. Find the missing quantity. 173) _____

V = 5, P = 80, K = 4

A) T = 4

B) T = 64

C) T = 1600

D) T = 100

Is the proportion set up correctly?

174) $\frac{oz}{hr} = \frac{oz}{hr}$ 174) _____

A) Yes

B) No

175) $\frac{in}{sec} = \frac{in}{sec}$ 175) _____

A) Yes

B) No

176) $\frac{in}{hr} = \frac{hr}{in}$ 176) _____

A) Yes

B) No

The results of a mathematics examination are given. Write the ratio in lowest terms.

177) Results: 9 A's, 5 B's, 9 C's, 3 D's, 2 F's 177) _____

A's to B's

A) 9 : 5

B) 5 : 9

C) 9 : 4

D) 4 : 1

178) Results: 6 A's, 6 B's, 17 C's, 7 D's, 3 F's 178) _____

A's to total grades

A) 13 : 3

B) 2 : 11

C) 2 : 13

D) 2 : 39

179) Results: 6 A's, 6 B's, 22 C's, 2 D's, 2 F's

Grades better than C to total grades

A) 13 : 1

B) 6 : 19

C) 11 : 19

D) 17 : 19

179) _____

Determine the following ratio. Write the ratio as a fraction in lowest terms.

180) 4 inches to 5 inches

A) 5:4

B) 4:5

C) - 5:4

D) - 4:5

180) _____

181) 6 inches to 9 feet

A) 9:6

B) 1:18

C) 6:9

D) 18:1

181) _____

182) 159 minutes to 6 hours

A) 6:159

B) 120:53

C) 159:6

D) 53:120

182) _____

183) 9 quarters to 16 dollars

A) 9:16

B) 9:64

C) 64:9

D) 16:9

183) _____

184) 6 nickels to 7 dollars

A) 3:70

B) 7:6

C) 70:3

D) 6:7

184) _____

185) 20 miles to 18 feet

A) 3:17,600

B) 20:18

C) 17,600:3

D) 18:20

185) _____

Solve the proportion for the variable by cross-multiplying.

186) $\frac{x}{42} = \frac{3}{14}$

A) $x = 9$

B) $x = 12$

C) $x = 196$

D) $x = 1$

186) _____

187) $\frac{6}{x} = \frac{0.4}{3.2}$

A) $x = \frac{12}{5}$

B) $x = \frac{96}{5}$

C) $x = \frac{32}{25}$

D) $x = 48$

187) _____

188) $\frac{4.2}{n} = \frac{2.5}{5.6}$

A) $n = 0.1$

B) $n = 9.4$

C) $n = 94.1$

D) $n = 1.1$

188) _____

189) $\frac{x}{9.1} = \frac{0.03}{4}$

A) $x = 14.65$

B) $x = 1213.33$

C) $x = 0.07$

D) $x = 1.09$

189) _____

Write a proportion that can be used to solve the problem. Then solve the equation to obtain the answer.

190) The ratio of a quarterback's completed passes to attempted passes is 5 : 7. If he attempted 21 passes, find how many passes he completed. Round to the nearest whole number.

A) 3 passes

B) 7 passes

C) 15 passes

D) 29 passes

190) _____

- 191) The ratio of a basketball player's completed free throws to attempted free throws is 4 : 5. If she completed 12 free throws, find how many free throws she attempted. Round to the nearest whole number. 191) _____
 A) 15 free throws B) 3 free throws C) 10 free throws D) 4 free throws
- 192) It takes Winnie 22 minutes to type and spell check 6 pages of a manuscript. Find how long it takes her to type and spell check 33 pages. Round to the nearest whole number. 192) _____
 A) 121 minutes B) 726 minutes C) 9 minutes D) 22 minutes
- 193) It takes Bill 30 minutes to type and spell check 16 pages. Find how many pages he can type and spell check in 3.5 hours. Round to the nearest tenth. 193) _____
 A) 112 pages B) 186.7 pages C) 56 pages D) 393.8 pages
- 194) On an architect's blueprint, 1 inch corresponds to 4 feet. Find the length of a wall represented by a line $2\frac{1}{4}$ inches long on the blueprint. Round to the nearest tenth. 194) _____
 A) 17.8 feet B) 7.5 feet C) 9 feet D) 56.3 feet
- 195) It is recommended that there be at least 9.3 square feet of floor space in a classroom for every student in the class. Find the minimum floor space that 36 students require. Round to the nearest tenth. 195) _____
 A) 387.1 square feet B) 334.8 square feet
 C) 9.3 square feet D) 25.8 square feet
- 196) It is recommended that there be at least 14.1 square feet of ground space in a garden for every newly planted shrub. A garden is 28.2 feet by 18 feet. Find the maximum number of shrubs the garden can accommodate. 196) _____
 A) 12 shrubs B) 36 shrubs C) 169 shrubs D) 2 shrubs
- 197) It is recommended that there be at least 17 square feet of work space for every person in a conference room. A certain conference room is 12 feet by 18 feet. Find the maximum number of people the room can accommodate. 197) _____
 A) 12 people B) 23 people C) 33 people D) 13 people
- 198) A bag of fertilizer covers 2000 square feet of lawn. Find how many bags of fertilizer should be purchased to cover a rectangular lawn 380 feet by 240 feet. 198) _____
 A) 46 bags B) 45 bags C) 4560 bags D) 456 bags

Determine the ratio and write the ratio as some quantity to 1.

- 199) According to a study, each week the average elementary child spends 19 hours watching television, 7 hours reading books, and 6 hours playing outside. What is the ratio of number of hours of television watched to the number of hours reading? 199) _____
 A) 19:6; 3.17:1 B) 7:19; 0.37:1 C) 19:7; 2.71:1 D) 19:12; 1.58:1
- 200) After a recent poll of registered voters in Grant County it is determined that 45% plan on voting for the the Republican candidate for governor, 30% plan on voting for the Democrat candidate, and 25% were undecided. What is the ratio of Republican voters to Democrat voters? 200) _____
 A) 2:3; 0.67:1 B) 3:2; 1.5:1 C) 45:25; 1.8:1 D) 15:1

Use a proportion to make the conversion. Round answers to two decimal places.

201) Convert 37,064 feet to miles.

A) 195,697,920 mi

B) 7.02 mi

C) 14.25 mi

D) 0.14 mi

201) _____

202) In a finite mathematics class, for a particular test, we find that 1 standard deviation equals 8 points.

How many points equal 5.25 standard deviations?

A) 42 points

B) 6.56 points

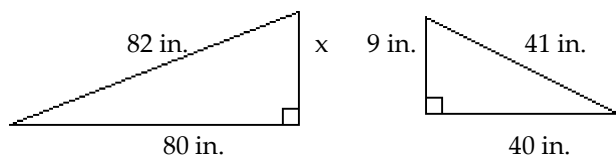
C) 1.52 points

D) 0.66 points

202) _____

The following figures are similar. For the pair, find the length of the side indicated by x.

203)



A) 9 in.

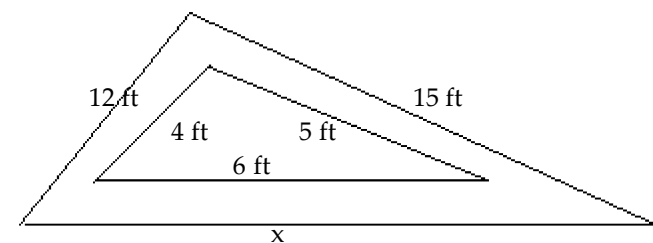
B) 18 in.

C) 27 in.

D) 13 in.

203) _____

204)



A) 24 ft

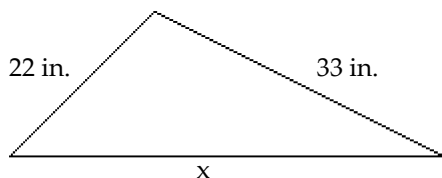
B) 20 ft

C) 6 ft

D) 18 ft

204) _____

205)



A) 36 in.

B) 41 in.

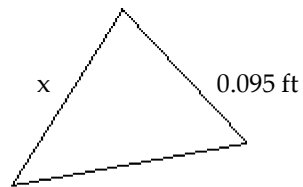
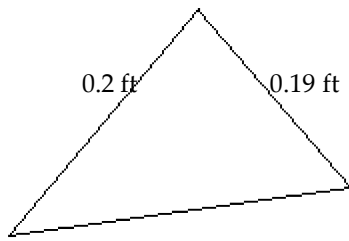
C) 55 in.

D) 44 in.

205) _____

206)

206) _____



A) 0.1 ft

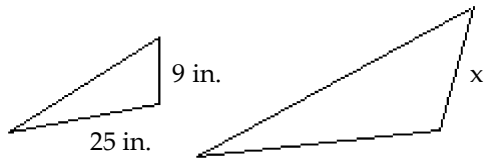
B) 10 ft

C) 0.09025 ft

D) 0.4 ft

207)

207) _____



A) 225 in.

B) 22.5 in.

C) 3.6 in.

D) 0.36 in.

Answer Key

Testname: UNTITLED1

- 1) B
- 2) C
- 3) A
- 4) A
- 5) A
- 6) B
- 7) A
- 8) B
- 9) B
- 10) A
- 11) A
- 12) A
- 13) B
- 14) B
- 15) A
- 16) B
- 17) D
- 18) A
- 19) A
- 20) A
- 21) C
- 22) B
- 23) C
- 24) C
- 25) D
- 26) B
- 27) C
- 28) D
- 29) C
- 30) B
- 31) D
- 32) C
- 33) B
- 34) D
- 35) D
- 36) A
- 37) C
- 38) B
- 39) B
- 40) A
- 41) D
- 42) D
- 43) A
- 44) A
- 45) A
- 46) A
- 47) B
- 48) A
- 49) A
- 50) B

Answer Key

Testname: UNTITLED1

- 51) A
- 52) A
- 53) B
- 54) A
- 55) A
- 56) B
- 57) D
- 58) A
- 59) D
- 60) A
- 61) A
- 62) A
- 63) A
- 64) B
- 65)
- 66) C
- 67) C
- 68) C
- 69) C
- 70) C
- 71) B
- 72) C
- 73) D
- 74) C
- 75) D
- 76) A
- 77) C
- 78) D
- 79) D
- 80) A
- 81) A
- 82) D
- 83) C
- 84) C
- 85) B
- 86) C
- 87)
- 88) A
- 89) A
- 90) C
- 91) D
- 92) C
- 93) B
- 94) A
- 95) D
- 96) B
- 97) B
- 98) C
- 99) C
- 100) A

Answer Key

Testname: UNTITLED1

- 101) C
- 102) D
- 103) A
- 104) B
- 105) A
- 106) D
- 107) B
- 108) A
- 109) D
- 110) C
- 111) B
- 112) B
- 113) B
- 114) D
- 115) D
- 116) C
- 117) C
- 118) A
- 119) B
- 120) B
- 121) D
- 122) A
- 123) C
- 124) A
- 125) A
- 126) B
- 127) B
- 128) D
- 129) C
- 130) D
- 131) B
- 132) D
- 133) A
- 134) D
- 135) B
- 136) B
- 137) C
- 138) A
- 139) D
- 140) C
- 141) D
- 142) B
- 143) A
- 144) D
- 145) C
- 146) C
- 147) A
- 148) C
- 149) C
- 150) D

Answer Key

Testname: UNTITLED1

- 151) A
- 152) B
- 153) D
- 154) B
- 155) C
- 156) D
- 157) A
- 158) A
- 159) B
- 160) A
- 161) B
- 162) A
- 163) B
- 164) C
- 165) D
- 166) D
- 167) B
- 168) A
- 169) A
- 170) D
- 171) C
- 172) D
- 173) D
- 174) A
- 175) A
- 176) B
- 177) A
- 178) C
- 179) B
- 180) B
- 181) B
- 182) D
- 183) B
- 184) A
- 185) C
- 186) A
- 187) D
- 188) B
- 189) C
- 190) C
- 191) A
- 192) A
- 193) A
- 194) C
- 195) B
- 196) B
- 197) A
- 198) A
- 199) C
- 200) B

Answer Key

Testname: UNTITLED1

201) B

202) A

203) B

204) D

205) D

206) A

207) B