

Name _____

Perform the indicated multiplication.

1) $(2)(-7)$

2) $(2)(-5)$

3) $(-5)(12)$

4) $(-5)(-6)$

5) $(-26)(-1)$

6) $(5)(-7)$

7) $0(-25)$

8) $0(-20)$

9) $(10)(-12)$

10) $\frac{1}{3}(-66)$

11) $-\frac{8}{27} \cdot \left(\frac{3}{4}\right)$

12) $-\frac{40}{27} \cdot \left(\frac{3}{8}\right)$

13) $-\frac{32}{35} \cdot \left(\frac{7}{8}\right)$

14) $-\frac{35}{32} \cdot \left(\frac{4}{5}\right)$

15) $\frac{23}{8} \cdot \left(-\frac{3}{2}\right)$

16) $(-3)(-8)(3)$

17) $(-7)(-3)(-3)$

27) $(4)(3)(4)(-2)(-5)$

18) $(-10)(-7)(-4)$

Find the multiplicative inverse.

28) 8

19) $(-6)(-5)(-1)(3)$

29) $\frac{1}{7}$

20) $(-5)(-9)(-5)(-1)$

30) $\frac{5}{6}$

21) $(-6)(-6)(-6)$

31) -6

22) $(-3)(2)(-3)(-5)$

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

23) $(-3)(5)(-1)(-2)(-2)$

33) 1

24) $(-5)(4)(-2)(0)(-2)$

34) 0

25) $(-5)(2)(-5)(0)(-4)$

35) 0

26) $(-5)(5)(-3)(0)(-3)$

Rewrite the division as multiplication involving a multiplicative inverse. Use the multiplication to find the given quotient.

36) $-72 \div 9$

37) $-56 \div 7$

38) $\frac{-36}{-6}$

39) $\frac{-49}{-7}$

44) $\frac{-196}{7}$

45) $\frac{-210}{-7}$

46) $\frac{0}{-39}$

47) $\frac{-25}{0}$

Perform the indicated division or state that the expression is undefined.

40) $\frac{35}{-7}$

41) $\frac{-42}{7}$

42) $\frac{-36}{-6}$

43) $\frac{54}{-3}$

48) $-15 \div 5$

49) $48 \div (-8)$

50) $-49 \div (-7)$

51) $-184 \div 8$

52) $184 \div (-8)$

$$53) -120 \div (-6)$$

$$54) 0 \div (-95)$$

$$55) \downarrow -78 \div 0$$

$$56) \frac{-7.2}{9}$$

$$57) 15 \div \left(-\frac{1}{2}\right)$$

$$58) -\frac{2}{7} \div \left(-\frac{3}{7}\right)$$

$$59) \frac{9}{14} \div \left(-\frac{2}{15}\right)$$

$$60) -\frac{8}{9} \div 2$$

$$61) 46 \div \left(-\frac{23}{5}\right)$$

Simplify the algebraic expression.

$$62) -5(8x)$$

$$63) -5\left(-\frac{4}{5}y\right)$$

$$64) 15x + x$$

$$65) -14x + x$$

$$66) 9b - 10b$$

$$67) -y + 8y$$

$$68) -7(9x + 8)$$

$$69) -2(4x + 4)$$

$$70) -9(7x - 5)$$

$$71) -6(8x - 9)$$

$$72) -7(-5x + 3)$$

$$73) -2(-4x + 3)$$

$$74) -(8x - 2)$$

$$75) 3(5y + 2) - 5(2y + 9)$$

$$76) 4(5y + 10) - (3y - 9)$$

$$77) -(9x - 2)$$

$$78) 9(9y + 7) - 4(10y + 6)$$

$$79) 8(6y + 10) - 10(3y + 9)$$

$$80) 10(3y + 9) - (4y - 2)$$

Determine whether the given number is a solution of the equation.

$$81) 11x = 9x - 6; -3$$

$$82) -4m + 18 = -8m + 6; -3$$

$$83) 2(x + 5) = 6x - 17; -4$$

$$84) 2(3 - z) + 5z = 0; -2$$

$$85) \frac{8y - 4}{4} = \frac{3y - 1}{5}; -6$$

$$86) 9x = 7x - 8; -4$$

Solve.

87) The cost in dollars of having a car towed is given by the algebraic expression $2x + 40$, where x is the number of miles the car is towed. Find the cost of having a car towed 10 miles.

88) The speed in feet per second of a ball dropped from a tower is given by the algebraic expression $32t$ where t is the number of seconds since the ball was dropped. Find the speed of the ball after 7 seconds.

- 89) The amount in ounces of water in a leaky bucket is given by the algebraic expression $123 - 7t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 3 minutes.
- 90) The amount in ounces of water in a leaky bucket is given by the algebraic expression $127 - 2t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 2 minutes.
- 91) The amount in ounces of water in a leaky bucket is given by the algebraic expression $121 - 3t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 4 minutes.
- 92) A company's cost per radio when producing x thousand radios in a month is given by the algebraic expression $\frac{8x + 21}{x}$. Find the cost per radio when 3 thousand radios are produced in a month.
- 93) The amount in ounces of water in a leaky bucket is given by the algebraic expression $115 - 2t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 2 minutes.
- 94) A company's cost per radio when producing x thousand radios in a month is given by the algebraic expression $\frac{9x + 40}{x}$. Find the cost per radio when 5 thousand radios are produced in a month.
- 95) The cost in tens of thousands of dollars of removing x percent of a contaminant from a lake after an accidental chemical spill is given by the algebraic expression $\frac{88x}{100 - x}$. Find the cost of removing 92 percent of the chemical from the lake.
- 96) A company's cost per radio when producing x thousand radios in a month is given by the algebraic expression $\frac{14x + 88}{x}$. Find the cost per radio when 8 thousand radios are produced in a month.
- 97) The cost in tens of thousands of dollars of removing x percent of a contaminant from a lake after an accidental chemical spill is given by the algebraic expression $\frac{110x}{100 - x}$. Find the cost of removing 89 percent of the chemical from the lake.

Answer Key

Testname: 01.7V01B

- 1) -14
- 2) -10
- 3) -60
- 4) 30
- 5) 26
- 6) -35
- 7) 0
- 8) 0
- 9) -120
- 10) -22
- 11) $-\frac{2}{9}$
- 12) $-\frac{5}{9}$
- 13) $-\frac{4}{5}$
- 14) $-\frac{7}{8}$
- 15) $-\frac{69}{16}$
- 16) 72
- 17) -63
- 18) -280
- 19) -90
- 20) 225
- 21) -216
- 22) -90
- 23) 60
- 24) 0
- 25) 0
- 26) 0
- 27) 480
- 28) $\frac{1}{8}$
- 29) 7
- 30) $\frac{6}{5}$
- 31) $-\frac{1}{6}$
- 32) $-\frac{8}{5}$
- 33) 1
- 34) Undefined
- 35) Undefined
- 36) $-72 \cdot \left(\frac{1}{9}\right); -8$

Answer Key

Testname: 01.7V01B

37) $-56 \cdot \left\{ \frac{1}{7} \right\}; -8$

38) $-36 \cdot \left\{ -\frac{1}{6} \right\}; 6$

39) $-49 \cdot \left\{ -\frac{1}{7} \right\}; 7$

40) -5

41) -6

42) 6

43) -18

44) -28

45) 30

46) 0

47) undefined

48) -3

49) -6

50) 7

51) -23

52) -23

53) 20

54) 0

55) undefined

56) -0.8

57) -30

58) $\frac{2}{3}$

59) $-\frac{135}{28}$

60) $-\frac{4}{9}$

61) -10

62) $-40x$

63) $4y$

64) $16x$

65) $-13x$

66) $-b$

67) $7y$

68) $-63x - 56$

69) $-8x - 8$

70) $-63x + 45$

71) $-48x + 54$

72) $35x - 21$

73) $8x - 6$

74) $-8x + 2$

75) $5y - 39$

76) $17y + 49$

77) $-9x + 2$

78) $41y + 39$

Answer Key

Testname: 01.7V01B

- 79) $18y - 10$
- 80) $26y + 92$
- 81) solution
- 82) solution
- 83) not a solution
- 84) solution
- 85) not a solution
- 86) solution
- 87) \$60
- 88) 224 ft/sec
- 89) 102 oz
- 90) 123 oz
- 91) 109 oz
- 92) \$15
- 93) 111 oz
- 94) \$17
- 95) \$10,120,000
- 96) \$25
- 97) \$8,900,000