

Name _____

Perform the indicated multiplication.

1) $(5)(-5)$

2) $(12)(-10)$

3) $(-10)(5)$

4) $(6)(-6)$

5) $(-14)(-1)$

6) $(10)(-2)$

7) $0(-14)$

8) $0(-26)$

9) $(7)(-9)$

10) $\frac{1}{8}(-232)$

11) $-\frac{21}{8} \cdot \left(\frac{2}{7}\right)$

12) $-\frac{32}{25} \cdot \left(\frac{5}{8}\right)$

13) $-\frac{28}{45} \cdot \left(\frac{5}{7}\right)$

14) $-\frac{16}{35} \cdot \left(\frac{5}{8}\right)$

15) $\frac{13}{9} \cdot \left(-\frac{25}{7}\right)$

16) $(-7)(-3)(4)$

17) $(-9)(-9)(-9)$

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

18) $(-3)(-8)(-10)$

Find the multiplicative inverse.

28) 19

19) $(-5)(-4)(-1)(4)$

29) $\frac{1}{3}$

20) $(-9)(-10)(-8)(-1)$

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

21) $(-2)(-2)(-2)$

31) -7

22) $(-4)(2)(-2)(-3)$

32) $-\frac{3}{7}$

23) $(-4)(4)(-1)(-2)(-5)$

33) 1

24) $(-5)(3)(-4)(0)(-4)$

34) 0

25) $(-5)(3)(-5)(0)(-3)$

35) 0

26) $(-5)(2)(-2)(0)(-4)$

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

36) $-40 \div 8$

37) $-16 \div 2$

38) $\frac{-30}{-6}$

39) $\frac{-18}{-9}$

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

40) $\frac{30}{-5}$

41) $\frac{-18}{2}$

42) $\frac{-30}{-5}$

43) $\frac{100}{-5}$

44) $\frac{-88}{4}$

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

46) $\frac{0}{-99}$

47) $\frac{-95}{0}$

48) $-40 \div 5$

49) $12 \div (-3)$

50) $-12 \div (-4)$

51) $-182 \div 7$

52) $52 \div (-4)$

$$53) -138 \div (-6)$$

$$54) 0 \div (-41)$$

$$55) \downarrow -70 \div 0$$

$$56) \frac{-1.5}{3}$$

$$57) 48 \div \left(-\frac{3}{5}\right)$$

$$58) -\frac{1}{4} \div \left(-\frac{1}{5}\right)$$

$$59) \frac{1}{2} \div \left(-\frac{3}{8}\right)$$

$$60) -\frac{5}{2} \div \frac{2}{3}$$

$$61) 21 \div \left(-\frac{3}{2}\right)$$

Simplify the algebraic expression.

$$62) -4(9x)$$

$$63) -3 \left(-\frac{2}{3}y\right)$$

$$64) 10x + x$$

$$65) -11x + x$$

$$66) 7b - 8b$$

$$67) -y + 3y$$

$$68) -9(4x + 10)$$

$$69) -6(3x + 5)$$

$$70) -8(6x - 9)$$

$$71) -4(6x - 3)$$

$$72) -2(-9x + 10)$$

$$73) -3(-7x + 6)$$

$$74) -(3x - 7)$$

$$75) 10(10y + 7) - 9(5y + 3)$$

$$76) 6(7y + 6) - (10y - 3)$$

$$77) -(2x - 6)$$

$$78) 2(2y + 2) - 8(10y + 2)$$

$$79) 4(9y + 10) - 10(7y + 5)$$

$$80) 5(9y + 4) - (10y - 3)$$

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

$$81) 9x = 7x - 6; -3$$

$$82) -6m + 15 = -10m + 7; -2$$

$$83) 3(x + 6) = 8x - 17; -8$$

$$84) 7(3 - z) + 10z = 0; -7$$

$$85) \frac{6y - 4}{3} = \frac{2y - 2}{5}; -5$$

$$86) 10x = 8x - 8; -4$$

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 5 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 8 seconds.

- 89) The amount in ounces of water in a leaky bucket is given by the algebraic expression $120 - 6t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 2 minutes.
- 90) The amount in ounces of water in a leaky bucket is given by the algebraic expression $126 - 4t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 6 minutes.
- 91) The amount in ounces of water in a leaky bucket is given by the algebraic expression $122 - 4t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 8 minutes.
- 92) A company's cost per radio when producing x thousand radios in a month is given by the algebraic expression $\frac{6x + 30}{x}$. Find the cost per radio when 2 thousand radios are produced in a month.
- 93) The amount in ounces of water in a leaky bucket is given by the algebraic expression $117 - 3t$, where t is the time in minutes since the bucket was filled. Find the amount of water in the bucket after 3 minutes.
- 94) A company's cost per radio when producing x thousand radios in a month is given by the algebraic expression $\frac{5x + 24}{x}$. Find the cost per radio when 4 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 $\frac{150x}{100 - x}$. Find the cost of removing 85 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 $\frac{5x + 117}{x}$. Find the cost per radio when 13 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 $\frac{195x}{100 - x}$. Find the cost of removing 87 percent of the chemical from the lake.

Answer Key

Testname: 01.7V01A

- 1) -25
- 2) -120
- 3) -50
- 4) -36
- 5) 14
- 6) -20
- 7) 0
- 8) 0
- 9) -63
- 10) -29
- 11) $-\frac{3}{4}$
- 12) $-\frac{4}{5}$
- 13) $-\frac{4}{9}$
- 14) $-\frac{2}{7}$
- 15) $-\frac{325}{63}$
- 16) 84
- 17) -729
- 18) -240
- 19) -80
- 20) 720
- 21) -8
- 22) -48
- 23) 160
- 24) 0
- 25) 0
- 26) 0
- 27) 600
- 28) $\frac{1}{19}$
- 29) 3
- 30) $\frac{8}{5}$
- 31) $-\frac{1}{7}$
- 32) $-\frac{7}{3}$
- 33) 1
- 34) Undefined
- 35) Undefined
- 36) $-40 \cdot \left(\frac{1}{8}\right); -5$

Answer Key

Testname: 01.7V01A

$$37) -16 \cdot \left\{ \frac{1}{2} \right\}; -8$$

$$38) -30 \cdot \left\{ -\frac{1}{6} \right\}; 5$$

$$39) -18 \cdot \left\{ -\frac{1}{9} \right\}; 2$$

$$40) -6$$

$$41) -9$$

$$42) 6$$

$$43) -20$$

$$44) -22$$

$$45) 18$$

$$46) 0$$

$$47) \text{undefined}$$

$$48) -8$$

$$49) -4$$

$$50) 3$$

$$51) -26$$

$$52) -13$$

$$53) 23$$

$$54) 0$$

$$55) \text{undefined}$$

$$56) -0.5$$

$$57) -80$$

$$58) \frac{5}{4}$$

$$59) -\frac{4}{3}$$

$$60) -\frac{15}{4}$$

$$61) -14$$

$$62) -36x$$

$$63) 2y$$

$$64) 11x$$

$$65) -10x$$

$$66) -b$$

$$67) 2y$$

$$68) -36x - 90$$

$$69) -18x - 30$$

$$70) -48x + 72$$

$$71) -24x + 12$$

$$72) 18x - 20$$

$$73) 21x - 18$$

$$74) -3x + 7$$

$$75) 55y + 43$$

$$76) 32y + 39$$

$$77) -2x + 6$$

$$78) -76y - 12$$

Answer Key

Testname: 01.7V01A

- 79) $-34y - 10$
- 80) $35y + 23$
- 81) solution
- 82) solution
- 83) not a solution
- 84) solution
- 85) not a solution
- 86) solution
- 87) \$50
- 88) 256 ft/sec
- 89) 108 oz
- 90) 102 oz
- 91) 90 oz
- 92) \$21
- 93) 108 oz
- 94) \$11
- 95) \$8,500,000
- 96) \$14
- 97) \$13,050,000