

# Practice 1-2

## Exponents and Order of Operations

Simplify each expression.

1.  $4 + 6(8)$

2.  $\frac{4(8 - 2)}{3 + 9}$

3.  $4 \times 3^2 + 2$

4.  $40 \div 5(2)$

5.  $2.7 + 3.6 \times 4.5$

6.  $3[4(8 - 2) + 5]$

7.  $4 + 3(15 - 2^3)$

8.  $17 - [(3 + 2) \times 2]$

9.  $6 \times (3 + 2) \div 15$

Evaluate each expression.

10.  $\frac{a + 2b}{5}$  for  $a = 1$  and  $b = 2$

11.  $\frac{5m + n}{5}$  for  $m = 6$  and  $n = 15$

12.  $x + 3y^2$  for  $x = 3.4$  and  $y = 3$

13.  $7a - 4(b + 2)$  for  $a = 5$  and  $b = 2$

Simplify each expression.

14.  $\frac{100 - 15}{9 + 8}$

15.  $\frac{2(3 + 4)}{7}$

16.  $\frac{3(4 + 12)}{2(7 - 3)}$

17.  $14 + 3 \times 4$

18.  $8 + 3(4 + 3)$

19.  $3 + 4[13 - 2(6 - 3)]$

20.  $8(5 + 30 \div 5)$

21.  $(3.4)(2.7) + 5$

22.  $50 \div 2 + 15 \times 4$

23.  $7(9 - 5)$

24.  $2(3^2) - 3(2)$

25.  $4 + 8 \div 2 + 6 \times 3$

26.  $(7 + 8) \div (4 - 1)$

27.  $5[2(8 + 5) - 15]$

28.  $(6 + 8) \times (8 - 4)$

29.  $12\left(\frac{6 + 30}{9 - 3}\right)$

30.  $14 + 6 \times 2^3 - 8 \div 2^2$

31.  $\frac{7(14) - 3(6)}{2}$

32.  $14 \div [3(8 - 2) - 11]$

33.  $3\left(\frac{9 + 13}{6}\right)$

34.  $\frac{4(8 - 3)}{3 + 2}$

35.  $5 + 4^2 \times 8 - 2^3 \div 2^2$

36.  $4^2 + 5^2(8 - 3)$

37.  $5(3^2 + 2) - 2(6^2 - 5^2)$

Evaluate each expression for  $a = 2$  and  $b = 6$ .

38.  $2(7a - b)$

39.  $(a^3 + b^2) \div a$

40.  $3b \div (2a - 1) + b$

41.  $\frac{5a + 2}{b}$

42.  $\frac{3(b - 2)}{4(a + 1)}$

43.  $9b + a^4 \div 8$

Use the expression  $r + 0.12m$  to calculate the cost of renting a car. The basic rate is  $r$ . The number of miles driven is  $m$ .

44. The basic rate is \$15.95. The car is driven 150 mi.

45. The basic rate is \$32.50. The car is driven 257 mi.

Evaluate each expression for  $s = 3$  and  $t = 9$ .

46.  $8(4s - t)$

47.  $(2t - 3s) \div 4$

48.  $t^2 - s^4$

49.  $s(3t + 6)$

50.  $\frac{5s^2}{t}$

51.  $\frac{2t^2}{s^3}$