

### Order of Operations

#### Exercises

Evaluate each expression.

1.  $(8 - 4) \cdot 2$

2.  $(12 + 4) \cdot 6$

3.  $10 + 2 \cdot 3$

4.  $10 + 8 \cdot 1$

5.  $15 - 12 \div 4$

6.  $\frac{15 + 60}{30 - 5}$

7.  $12(20 - 17) - 3 \cdot 6$

8.  $24 \div 3 \cdot 2 - 3^2$

9.  $8^2 \div (2 \cdot 8) + 2$

10.  $3^2 \div 3 + 2^2 \cdot 7 - 20 \div 5$

11.  $\frac{4 + 3^2}{12 + 1}$

12.  $\frac{8(2) - 4}{8 \div 4}$

13.  $250 \div [5(3 \cdot 7 + 4)]$

14.  $\frac{2 \cdot 4^2 - 8 \div 2}{(5 + 2) \cdot 2}$

15.  $\frac{4 \cdot 3^2 - 3 \cdot 2}{3 \cdot 5}$

16.  $\frac{4(5^2) - 4 \cdot 3}{4(4 \cdot 5 + 2)}$

17.  $\frac{5^2 - 3}{20(3) + 2(3)}$

18.  $\frac{8^2 - 2^2}{(2 \cdot 8) + 4}$

### Evaluating Algebraic Expressions

#### Exercises

Evaluate each expression if  $x = 2$ ,  $y = 3$ ,  $z = 4$ ,  $a = \frac{4}{5}$ , and  $b = \frac{3}{5}$ .

1.  $x + 7$

2.  $3x - 5$

3.  $x + y^2$

4.  $x^3 + y + z^2$

5.  $6a + 8b$

6.  $23 - (a + b)$

**Writing Expressions**

**Exercises**

Write an algebraic expression for each verbal expression.

1. a number decreased by 8
2. a number divided by 8
3. a number squared
4. four times a number
5. a number divided by 6
6. a number multiplied by 37
7. the sum of 9 and a number
8. 3 less than 5 times a number
9. twice the sum of 15 and a number
10. one-half the square of  $b$
11. 7 more than the product of 6 and a number
12. 30 increased by 3 times the square of a number

**Exercises**

Write a verbal expression for each algebraic expression.

1.  $w - 1$
2.  $\frac{1}{3}a^3$
3.  $81 + 2x$
4.  $12c$