

## Section 3.2

### Exercises

**Determine if each sentence is true or false.**

1.  $4 > 2 \cdot 5 - 7$
2.  $9 - 2 \cdot 4 \neq 12 - 3 \cdot 5$
3.  $3 + 7(-3) + (-5)^2 < 4^2 - 3^2$

**For each equation, determine if the suggested value(s) is/are a solution of the equation.**

4.  $6x - 5 = 31; x = 4$
5.  $-9x - 5 = 13; x = -2$
6.  $3x^2 + 11x = 4; x = -4$
7.  $10x^2 + 13x - 3 = 0; x = \frac{1}{5}$
8.  $x^2y^2 + 4xy - 6 = -10; x = 2, y = -1$
9.  $3xy^3 - 4x^2y = 5; x = -1, y = -1$

**For each inequality, determine if the suggested value(s) is/are a solution of the inequality.**

10.  $4x - 2y < 10; x = 5, y = -2$
11.  $2x + 8y > 3; x = -6, y = 2$
12.  $x^2 - 4xy > 3y^2; x = -2; y = 3$
13.  $2y^2 + 3x - x^2 < 5xy; x = -1; y = -3$
14.  $x^2y^2 - 3x^2 < 7x^3; x = 2; y = 5$