Quadratics Worksheet

Factoring

1. Solve $16a^2 - 25 = 0$

2. Solve $(x-2)(x+1) = 4$

3. Solve $x(2x+3) = 44$

4. Solve $5^2 = x^2 + (x+1)^2$

5. Solve $2x^3 = 5x^2 + 3x$

6. Solve $x^3 + 2x^2 - 9x - 18 = 0$

Square Root Property

1. Solve $(2x-3)^2 = 25$

2. Solve $(3x-1)^2 = -12$

3. Solve $(4y-5)^2 = 6$

4. Solve $(2x+6)^2 = 8$

Completing the Square

1. Solve by completing the square: $x^2 + 5x - 2 = 0$

2. Solve: $x^2 - 6x + 5 = 0$

3. Solve: $2x^2 + 16x - 18 = 0$

4. Solve: $3x^2 - 8x + 7 = 0$

Quadratic Formula

1. Solve: $x^2 - 6x = -7$

2. Solve: $2x^2 = -4x + 3$

3. Solve: $(x - 2)(x + 3) = 5$

4. Solve: $\frac{1}{10}x^2 - \frac{1}{5}x = -\frac{1}{2}$

The Discriminant

1. Find the number and kind of solutions for each equation.

   a. $x^2 - 3x - 40 = 0$

   b. $2x^2 - 3x + 4 = 0$

   c. $4x^2 - 12x + 9 = 0$

2. Find *k* so that the equation $4x^2 - kx = -9$ has one rational solution.

Graphing Quadratic Functions

1. Sketch the graph of $y = -x^2 - 2x + 3$

2. Sketch the graph of : $y = -2x^2 + 6x - 5$

Quadratic Inequalities

1. Solve : $x^2 + x - 6 < 0$

2. Solve : $6x^2 < 5x - 1$