

Name _____

Date _____

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Pre-Calculus

Solving Quadratics by Completing the Square and the Quadratic Formula

What is the standard form of a quadratic equation? _____

Put the quadratics in standard form and identify a, b, and c.

1. $3x^2 + 5x - 2 = 0$

2. $x^2 = -2x + 7$

3. $x^2 + 6x = 15$

Solving Quadratics by Completing the Square

1)

2)

3)

4)

5)

6)

Examples:

1) $-x^2 - 4x + 2 = 0$

2) $2x^2 - 5 = 3x$

Solving Quadratics using the Quadratic Formula

1)

2)

3)

4)

5)

Examples:

1) $2x^2 - 4x = 1$

2) $x^2 = 6x + 3$

Practice: Solve each of the following quadratic equations by completing the square.

1) $x^2 + 14 - 15 = 0$

2) $x^2 + 6x = -8$

$$3) k^2 + 23 = 12k$$

$$4) 3x^2 = -4 + 8x$$

Solve each of the following quadratic equations by using the quadratic formula.

$$5) 3v^2 = 8v + 128$$

$$6) -5n^2 = -18 - 3n$$

$$7) 7m^2 = -2 - 7m$$

$$8) 6x^2 = 22 + x$$

Solve each of the following quadratic equations using factoring when possible. Otherwise, use the quadratic equation.

$$9) 3u^3 + 375 = 0$$

$$10) 9r^2 + 7r + 8 = -4 + 8$$

$$11) -5x = x^2 - 6$$

$$12) p^2 - 5p = 0$$

$$13) x^3 - 27 = 0$$

$$14) x^3 - 2x^2 + 4x - 8 = 0$$