

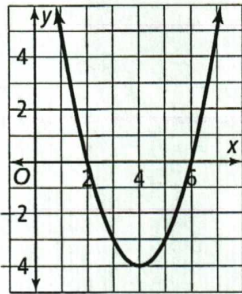
Name _____

2-6 Reteach to Build Understanding

The Quadratic Formula

1. You can solve any quadratic equation $ax^2 + bx + c = 0$ by using the Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. You can predict the number and type of solutions using the discriminant, $b^2 - 4ac$.

Fill in the missing information on the chart below.

$x^2 - 8x + 12 = 0$ $a = 1$ $b =$ $c = 12$		$b^2 - 4ac > 0$	The equation $x^2 - 8x + 12 = 0$ has
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2. Charles uses the Quadratic Formula to solve the equation $5x^2 - 4x + 4 = 0$. Find and correct his error(s).

$$5x^2 - 4x + 4 = 0$$

$$x = \frac{4 \pm \sqrt{(-4)^2 - 4(5)(4)}}{2 \times 5}$$

$$x = \frac{4 \pm 8}{10}$$

$$x = \frac{4+8}{10} = \frac{6}{5} \quad \text{or} \quad x = \frac{4-8}{10} = \frac{-2}{5}$$

The equation has two real solutions.

3. Kimberly hits the volleyball at a height of 5.3 feet. The equation is $h = -16t^2 + 11t + 5.3$. LaTanya hits the volleyball at a height of 5.5 feet. The equation is $h = -16t^2 + 11t + 5.5$. The height of the volleyball net is 7.3 feet. Will the ball go over the net?

Kimberly:

$$-16t^2 + 11t + 5.3 = 7.3$$

$$-16t^2 + 11t - 2 = 0$$

$$b^2 - 4ac = 11^2 - 4(-16)(-2)$$

$$= -7 < 0$$

Kimberly would not be able to hit the ball over the net since the discriminant is smaller than zero.

LaTanya:

$$-16t^2 + 11t + 5.5 = 7.3$$

LaTanya able to hit the ball over the net since the discriminant is