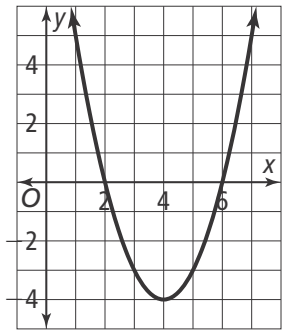
Name _____

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

2. Charles uses the Quadratic Formula to solve the equation $5x^2 - 4x + 4 = 0$. Find and correct his error(s).

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

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

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

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

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 _____