

Bell Work

Which method should we use to solve?

Factoring, Square Root, or Complete the Square?

$$x^2 + 25 = 0$$



KEY IDEA

The Quadratic Formula

The solutions of the quadratic equation $ax^2 + bx + c = 0$ are

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Quadratic Formula

where a , b , and c are real numbers and $a \neq 0$.

Solve $x^2 + 3x = 5$ using the Quadratic Formula

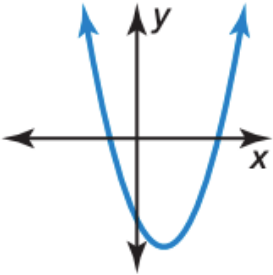
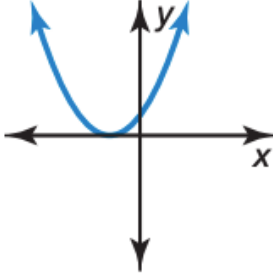
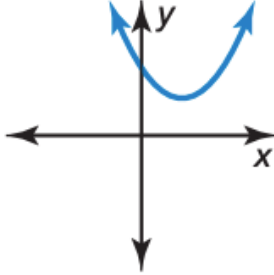
Solve $25x^2 - 8x = 12x - 4$ using the Quadratic Formula.

Solve $-x^2 + 4x = 13$ using the Quadratic Formula.



KEY IDEA

Analyzing the Discriminant of $ax^2 + bx + c = 0$

Value of discriminant	$b^2 - 4ac > 0$	$b^2 - 4ac = 0$	$b^2 - 4ac < 0$
Number and type of solutions	Two real solutions	One real solution	Two imaginary solutions
Graph of $y = ax^2 + bx + c$	 <p>Two x-intercepts</p>	 <p>One x-intercept</p>	 <p>No x-intercept</p>

Find the discriminant of the quadratic equation and describe the number and type of solutions of the equation.

$$x^2 - 6x + 10 = 0$$