Algebra II Auch

Section 5.6 Date:

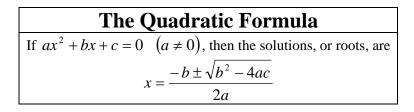
Objectives

- Solve quadratic equations using the Quadratic Formula
- Classify roots using the discriminant.

Vocabulary

discriminant -

Watch what we make using by completing the square to the equation $ax^2 + bx + c = 0$ $(a \neq 0)$



Example 1

Find the zeros of

 $f(x) = x^2 + 10x + 2$ by using the Quadratic Formula.

Try it!

a) Find the zeros of
$$f(x) = x^2 + 3x - 7$$

b) **Find the zeros of** $f(x) = x^2 - 8x + 10$

Example 2

Quadratic Functions with Complex Zeros are zeros of $f(x) = 2x^2 - x + 2$ by using the Quadratic Formula. Find the zeros of

Try it!

 $g(x) = 3x^2 - x + 8$ by using the Quadratic Formula. Find the zeros of a)

Discriminant		
The discriminant of the quadratic equation $ax^2 + bx + c = 0$ $(a \neq 0)$, is $b^2 - 4ac$.		
$b^2 - 4ac > 0$	$b^2 - 4ac = 0$	$b^2 - 4ac < 0$
Two distinct real solutions	One distinct real solution	Two distinct nonreal complex solutions

Example 3Analyzing Quadratic Equations by Using the Discriminant
Find the type and number of solutions for each equation.

a)
$$x^2 - 6x = -7$$

b)
$$x^2 - 6x = -9$$

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

Try it! a)
$$x^2 - 6x = -7$$

b)
$$x^2 - 6x = -9$$

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