Algebra II **Section 5.3**
Auch **Date:**

Objectives

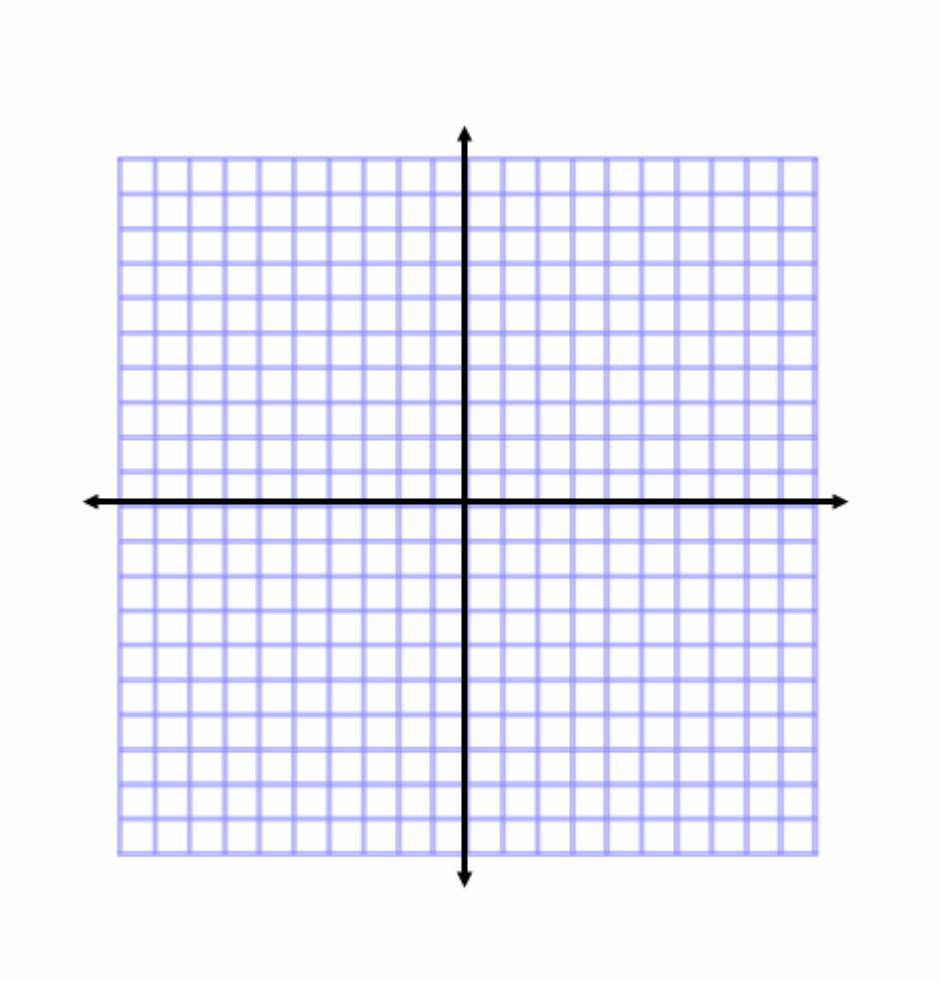
- Solve quadratic equations by graphing or factoring.
- Determine a quadratic function from its roots.

Vocabulary

Zero of a function
Root of an equation-
Binomial-
Trinomial-

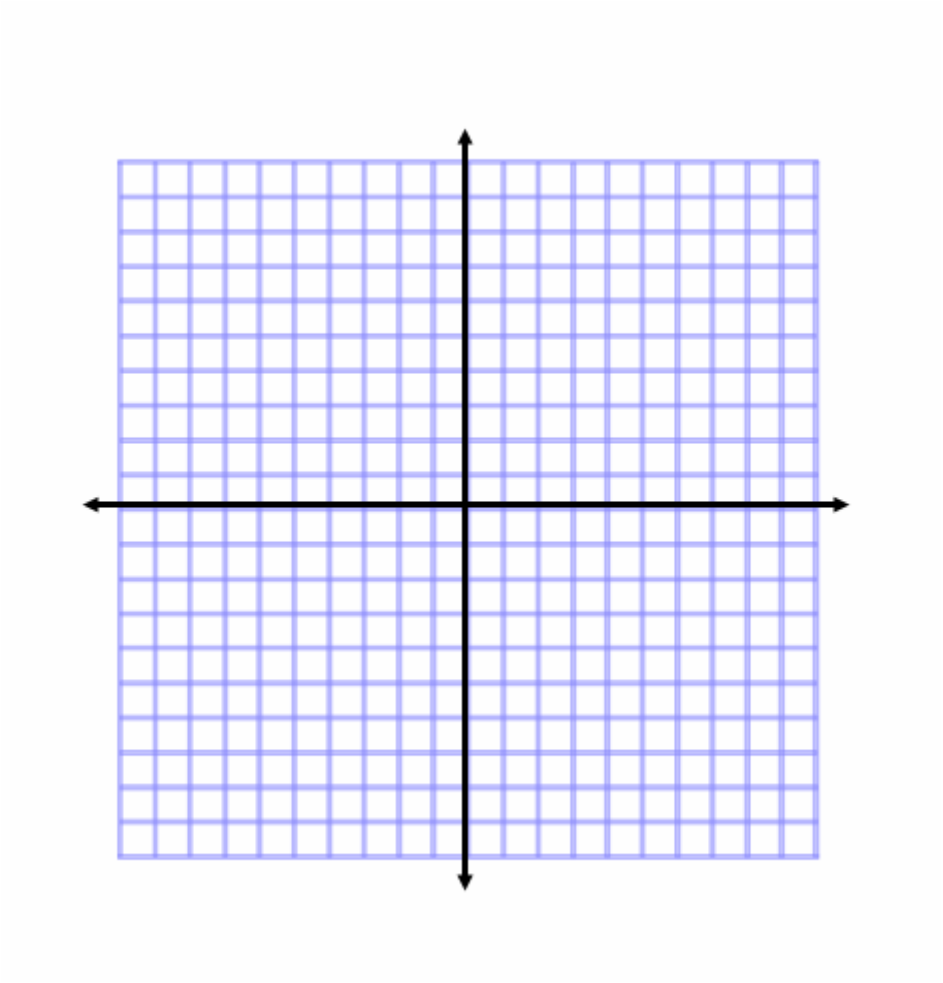
Example 1

Find the zeros of $f(x) = x^2 + 2x - 3$ **by using a graph and table.**



Try it!

Find the zeros of $f(x) = -x^2 - 2x + 3$ **by using a graph and table.**



Example 2 **Finding Zeros by Factoring**

Find the zeros of each function by factoring.

$f(x) = x^2 - 8x + 12$

Find the zeros of each function by factoring.

$f(x) = 3x^2 + 12x$

Try it!

Find the zeros of each function by factoring.

$f(x) = x^2 - 5x - 6$

Find the zeros of each function by factoring.

$f(x) = x^2 - 8x$

Specials Products and Factors	
Difference of Two Squares	**Perfect-Square Trinomial**
$a^2 - b^2 = (a+b)(a-b)$	$a^2 - 2ab + b^2 = (a-b)^2$ $a^2 + 2ab + b^2 = (a+b)^2$

Example 4 **Finding Roots by Using Special Factors**

Finding the roots of each equation by factoring

a) $9x^2 = 1$

b) $40x = 8x^2 + 50$

Try it! **Finding Roots by Using Special Factors**

Finding the roots of each equation by factoring

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

b) $25x^2 = 9$

Example 5 **Using Zeros to Write Functions**

Write a quadratic function in standard form with zeros 2 and -1.

Try it! **Using Zeros to Write Functions**

Write a quadratic function in standard form with zeros 5 and -5

Homework: 5.3 pg #338 19 – 45 odd; exclude #27