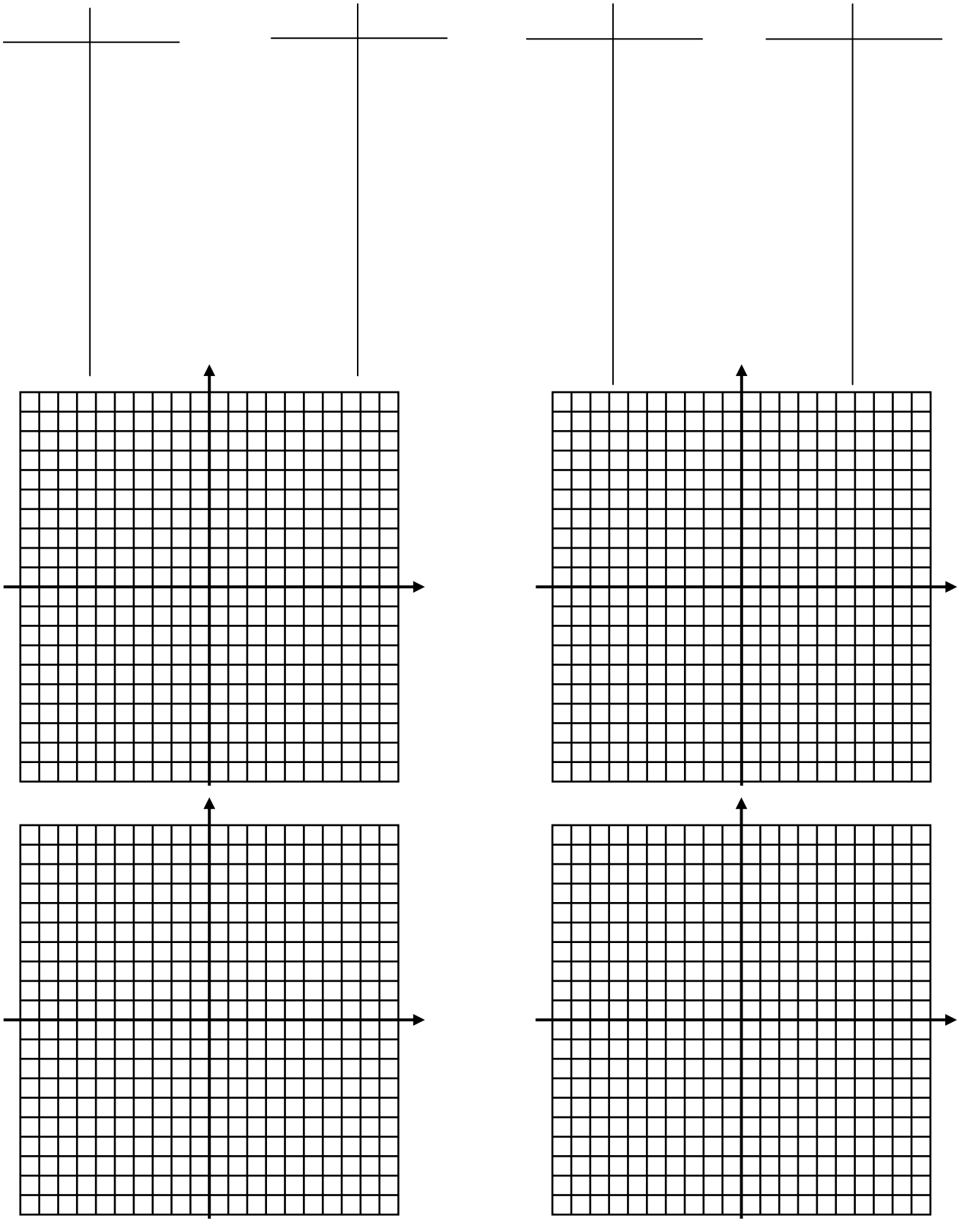
Algebra RH

Essential Question: What are the roots of a quadratic function?

Do Now: Using a table of values, graph the following four quadratic functions.

a. $y = x^2 + 2x - 3$ b. $y = x^2 - 6x + 9$ c. $y = x^2 + 3$ d. $y = x^2 + 4x - 2$



Complete the following table.

Quadratic Function	x-intercept(s)
$y = x^2 + 2x - 3$	
$y = x^2 - 6x + 9$	
$y = x^2 + 3$	
$y = x^2 + 4x - 2$	

How do we determine *x*-intercept(s)

Graphically?	Algebraically?

$y = x^2 + 2x - 3$	$y = x^2 - 6x + 9$	$y = x^2 + 3$	$y = x^2 + 4x - 2$

Take Away: The *x*-intercepts of a quadratic function are also known as the _____ and _____ of the related equation.

Algebra RH **HW #_____**

For each quadratic function below:

- **Create a table of values and graph on graph paper.**
- **Draw and label the axis of symmetry.**
- **Identify the "roots" of the function (*also known as the x-intercepts of the graph*).**
  If the roots are not integers, use the calculator (2nd CALC → 2:zero) to find them. Round all roots to the nearest tenth when necessary.

1) $y = x^2 - 2x - 3$ 2) $y = x^2 + 2x + 1$ 3) $y = x^2 + 4x + 1$

Without graphing the quadratic function, determine the x-intercepts (roots) of the graph.

4) $y = x^2 - 5x + 4$ 5) $y = 2x^2 - 4$

Without graphing, use the quadratic formula to determine the x-intercepts (roots) of the graph.

6) $y = x^2 - 4x + 7$