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NOTES: Section 9.6 – Solving Quadratic Equations by the Quadratic Formula

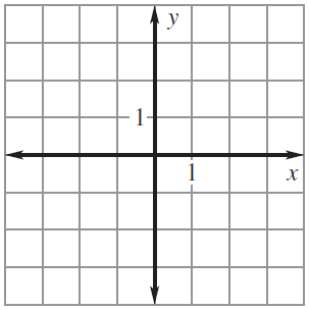
Goals: #1 - I can use the quadratic formula to solve a quadratic equation.

Homework: Section 9.6 Worksheet



Warm Up: Graph the function by completing the table. Identify the graph's axis of symmetry (AOS), vertex, and tell whether the graph opens up or down.

1. $y = 3x^2$



AOS: _____

vertex: _____

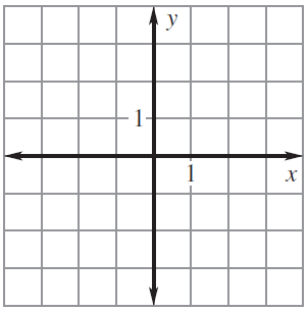
y-int: _____

opens: _____

solution/s: _____

x					
y					

2. $y = -x^2 - 2x + 3$



AOS: _____

vertex: _____

y-int: _____

opens: _____

solution/s: _____

x					
y					

Review:

A quadratic equation in _____:

To put a quadratic equation in standard form, we set the equation equal to _____.

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Let's practice: Write the equation in standard form. Identify the values of a, b, and c.

1. $3x^2 = 3x + 6$

$a =$ _____
$b =$ _____
$c =$ _____

2. $-2x^2 = -8$

$a =$ _____
$b =$ _____
$c =$ _____

3. $-x^2 + 5x = 6$

$a =$ _____
$b =$ _____
$c =$ _____

4. $-24x + 45 = -3x^2$

$a =$ _____
$b =$ _____
$c =$ _____

Notes:

We can _____ ANY quadratic equations by using the _____.

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

Step 1: Set the _____ equation equal to _____.

Step 2: _____ and _____!

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Example #1: Use the quadratic formula to solve the equation. Round the solutions to the nearest tenth, if necessary.

1. $x^2 + 9x + 14 = 0$

   $a =$ _____

   $b =$ _____

   $c =$ _____

2. $2x^2 - 3x = 8$

   $a =$ _____

   $b =$ _____

   $c =$ _____

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You practice: Use the quadratic formula to solve the equation. Round the solutions to the nearest tenth, if necessary.

3. $7x^2 - 1 = -2x$

$a =$ _____

$b =$ _____

$c =$ _____

You practice: Write down the quadratic 5 times!

1. _____

2. _____

3. _____

4. _____

5. _____