Name:_____ Date:_____ Block:_____

Section 9-6: Standard Form
Section 9-7: Find x and y Intercepts

Warm-up:

Without using a calculator answer the following question:

1. Tell whether the following **open up** or **down**:
   a. $f(x) = (x - 1)^2$ b. $f(x) = 5x^2 + 3$ c. $f(x) = -x^2 - 5$

2. $f(x) = 5(x - 1)^2 + 3$

a. What is the vertex?	
b. What is the line of symmetry?	
c. Open up or down?	
d. What is the minimum or maximum?	

The Graph-able Form of a Quadratic Function:

- Why do we like the Graphable form of a quadratic function?

- How can we convert other quadratics functions into standard form?

Name:_____ Date:_____ Block:_____

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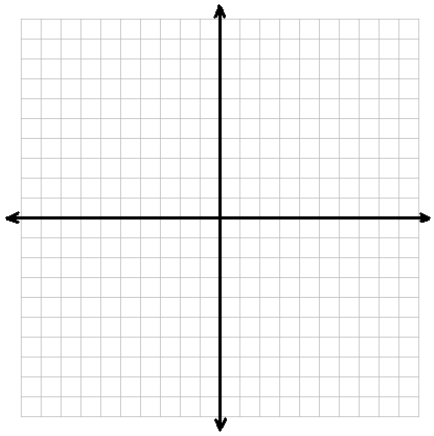
Let's say we do not want to complete the square, then how else can we find out this information?

We are given the following: $f(x) = a\,x^2 + bx + c$

To find the x-coordinate of the VERTEX we can use the following formula…

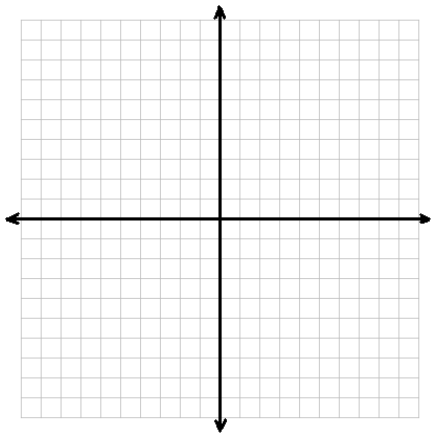
Example #1: $f(x) = 5x^2 + 2x + 3$ x-coordinate of vertex=_____

a. What is the vertex? _____
b. What is the line of symmetry? _____
c. Open up or down _____
d. What is the minimum or maximum? _____



Example #2: $f(x) = 3x^2 - 6x - 4$ x-coordinate of vertex=_____

a. What is the vertex? _____
b. What is the line of symmetry? _____
c. Open up or down _____
d. What is the minimum or maximum? _____



Name:_____ Date:_____ Block:_____

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Example #3: $f(x) = -6x^2 + 8x + 2$ x-coordinate of vertex=_____

a. What is the vertex? _____

b. What is the line of symmetry? _____

c. Open up or down _____

d. What is the minimum or maximum? _____