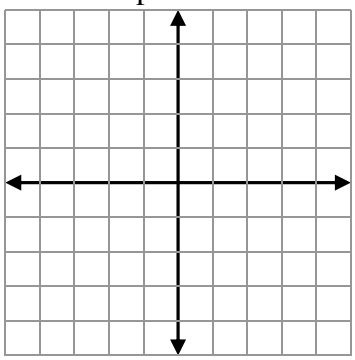
IM 3 Graphing Quadratic Functions 1

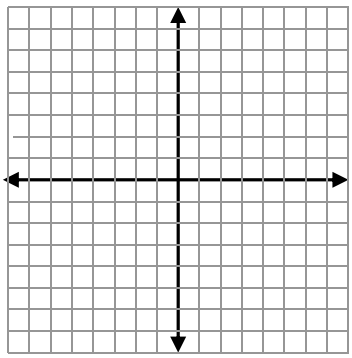
Name: _____ Per: _____ Date: _____

Show *ALL* work in the space provided.

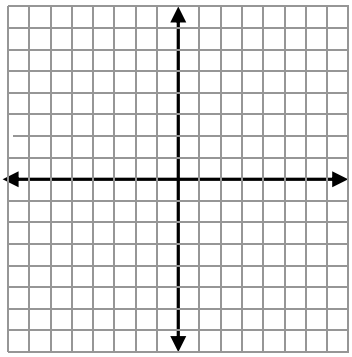
1. Use $y = x^2 + 6x + 5$ for the following:

a) Factor $y = x^2 + 6x + 5$.	b) Solve for the zeroes (x-intercepts). Then graph the zeroes.	c) Find the axis of symmetry. (Hint: It is halfway between the zeroes. Write the equation of the axis of symmetry. $x =$ _____
d) Use your answer from part (c) to find the y-coordinate of the vertex. Write the vertex.	e) Graph the vertex.	f) Sketch the parabola. 

2. Use $y = x^2 - 4x - 5$ for the following:

a) Factor $y = x^2 - 4x - 5$.	b) Solve for the zeroes (x-intercepts). Then graph the zeroes.	c) Find the axis of symmetry. (Hint: It is halfway between the zeroes. Write the equation of the axis of symmetry. $x =$ _____
d) Use your answer from part (c) to find the y-coordinate of the vertex. Write the vertex.	e) Graph the vertex.	f) Sketch the parabola. 

3. Use $y = x^2 - 16$ for the following:

a) Factor $y = x^2 - 16$.	b) Solve for the zeroes (x-intercepts). Then graph the zeroes.	c) Find the axis of symmetry. (Hint: It is halfway between the zeroes. Write the equation of the axis of symmetry. $x =$ _____
d) Use your answer from part (c) to find the y-coordinate of the vertex. Write the vertex.	e) Graph the vertex.	f) Sketch the parabola. Count by 2's on the y-axis. 

4. Use $y = x^2 + 2x - 15$ for the following:

a) Factor $y = x^2 + 2x - 15$.	b) Solve for the zeroes (x-intercepts). Then graph the zeroes.	c) Find the axis of symmetry. (Hint: It is halfway between the zeroes. Write the equation of the axis of symmetry. $x =$ _____
d) Use your answer from part (c) to find the y-coordinate of the vertex. Write the vertex.	e) Graph the vertex.	f) Sketch the parabola. Count by 2's on the y-axis.