Algebra I Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vertex –> Standard

**Warm Up**

Mr. Ballard says that f(x)=2(x-4)2 +3 is the same as f(x)=2x2-4x+3.

Should you believe him? Why or why not? Use your knowledge of quadratics to support your claim.

**Activity #1**

Consider $y=3(x-2)^{2}-5$

What is the form of this quadratic?

What are the variables used for this form? Identify the variables of this form and write down their numerical value for this equation below:

|  |  |  |
| --- | --- | --- |
| What is the “job” of *\_\_\_*? | What is the “job” of *\_\_\_*? | What is the “job” of *\_\_\_*? |

Sketch the graph.

What is the vertex of this graph?

**Activity #2**

Consider $y=3x^{2}-12x+7$

What is the form of this quadratic?

What are the variables used for this form? Identify the variables of this form and write down their numerical value for this equation below:

|  |  |  |
| --- | --- | --- |
| What is the “job” of *\_\_\_*? | What is the “job” of *\_\_\_*? | What is the “job” of *\_\_\_*? |

Sketch the graph.

What is the axis of symmetry?

What is the vertex of this graph?

**Reflection**

After completing both of these activities, what did you notice about the graphs?

What can you say about the two equations?

Is there a quicker way to show the graphs are the same?