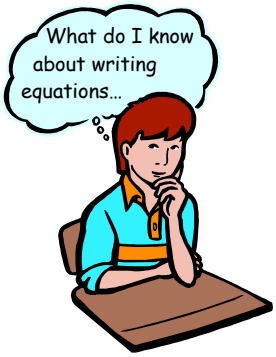
Sheet 2.1 PreCalc

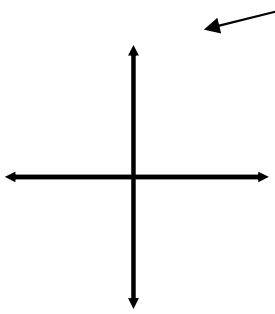
Writing Parabolic Equations

Name _____

Date _____ Period ____

There comes a time when we pause and reflect back on all of the wonderful math we learned throughout high school. Today we want to specifically ponder the "often imitated but never duplicated" **parabola**. Yesterday we discussed techniques for graphing a parabola, but what if we wanted to ***write an equation for a parabola***? Do you realize that you have actually been taught three different methods for writing such an equation?! Can you think of them? It might help to draw a little simple parabola in the space provided, then go ahead, try to describe any of these three methods…



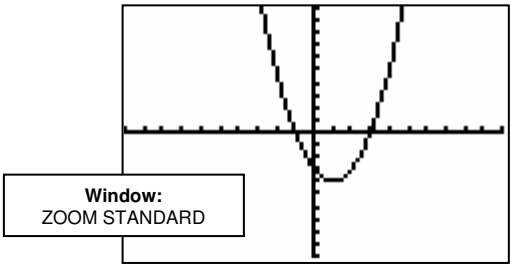


Method #1:

Method #2:

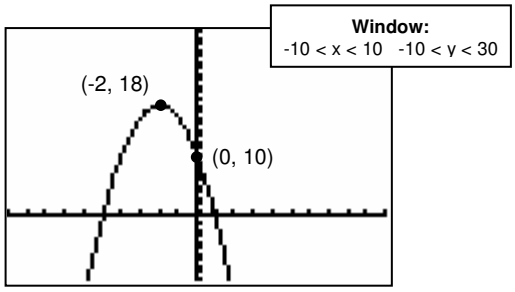
Method #3:

A. Carefully use <u>each</u> of the three methods to create an equation for the given parabola. You should, of course, get the same answer each time.

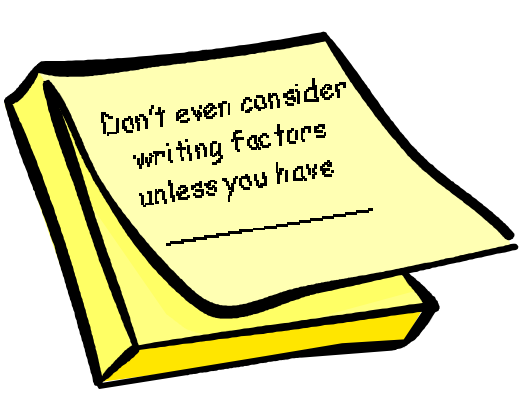


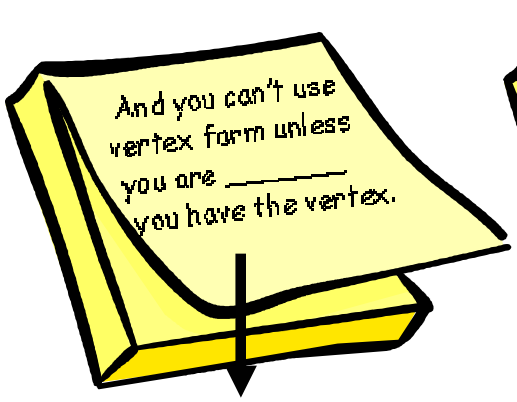
Equation: _____

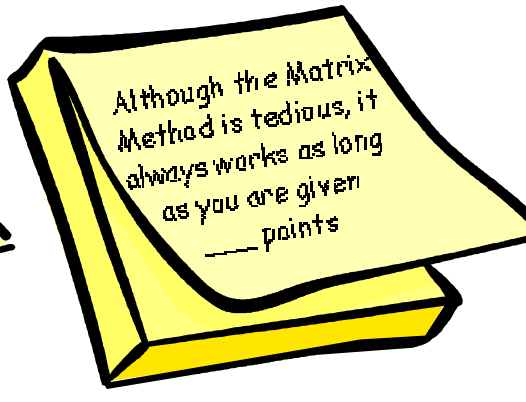
B. Carefully use <u>each</u> of the three methods to create an equation for the given parabola. You should, of course, get the same answer each time.



Equation: _____

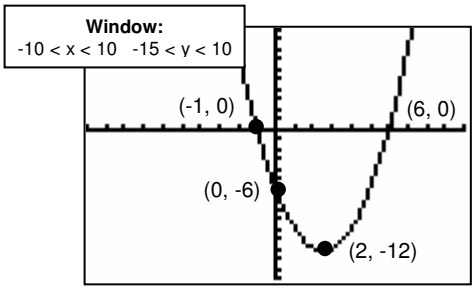






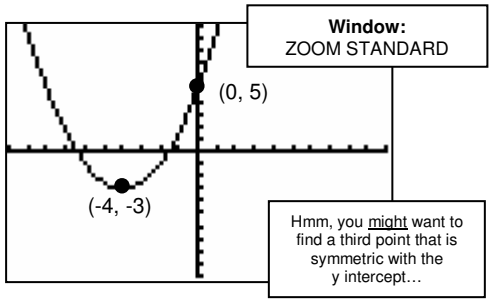
How can you be sure?
The line of symmetry that goes through the "vertex" must be equidistance from both x intercepts.

1. Use any <u>one</u> method to write an equation for the given parabola. *Be sure to <u>check</u> your answer by graphing your equation.*



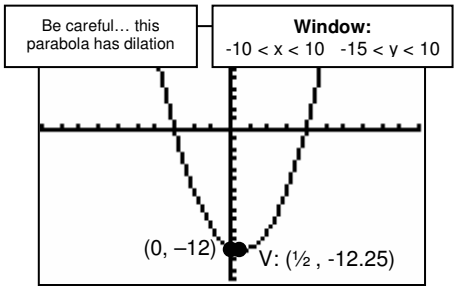
Equation: _____
Show any work here…

2. Use any <u>one</u> method to write an equation for the given parabola. *Be sure to <u>check</u> your answer by graphing your equation.*



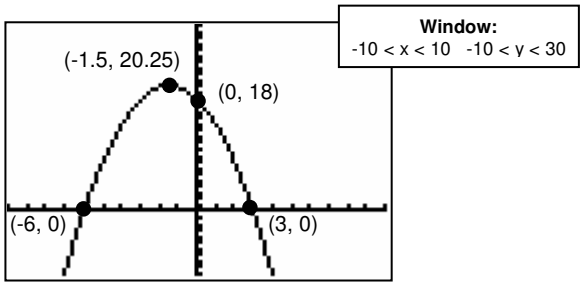
Equation: _____
Show any work here…

3. Use any <u>one</u> method to write an equation for the given parabola. *Be sure to <u>check</u> your answer by graphing your equation.*



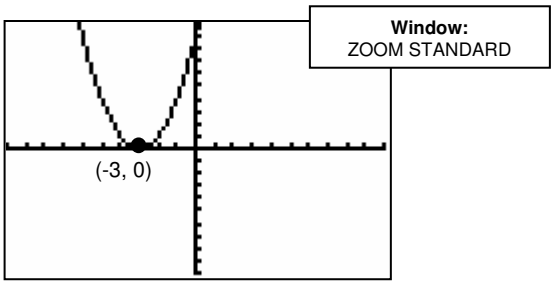
Equation: _____
Show any work here…

4. **Show evidence** of using **<u>two</u> methods** to find the equation for this parabola.
Hopefully you get the same answer both times!



Equation: _____
Show any work here…

5. Now how are you going to write an equation for this interesting parabola? *There are still a few options available!*



Equation: _____
Show any work here…