HW: Section 2.2, p. 139:

#1-5(odd) *but with these directions*: (a). Find the (x, y) coordinate of the vertex; Is it a maximum or a minimum? **(b).** Graph the function (w/o calculator). Label the vertex.

#7-11(odd) *but with these directions*: (a). Find the (x, y) coordinate of the vertex; Is it a maximum or a minimum? **(b).** Find the x- and y- intercepts, if they exist. **(c).** Graph the function (w/o calculator). Label the vertex and intercepts.

#31, 33, 35, 39

This remaining part of this worksheet is also homework. Please keep it with your homework for any homework checks.

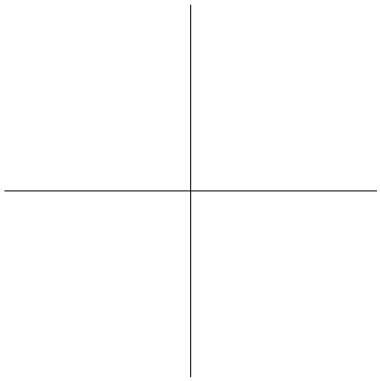
Given three points that are not on a line, there is only one parabola $y = ax^2 + bx + c$ that will go through those points. To determine this parabola

- Substitute all three points (x, y) into the equation $y = ax^2 + bx + c$ to obtain a system of three equations for three unknowns (a, b, and c).
- Solve the system to determine a, b, and c.
- Write the equation of the parabola.

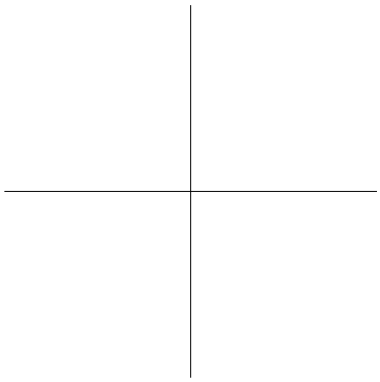
For each of the following problems,

(a). Graph the points. **(b).** Use the steps to find the equation for the parabola. **(c).** Find the vertex and graph the parabola.

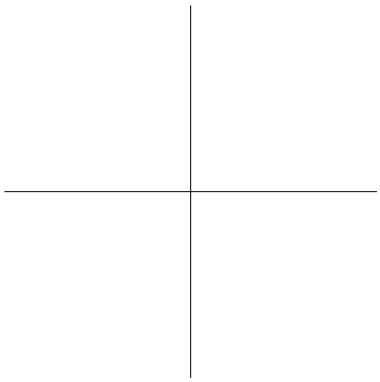
1. $(1, 0),\ (2, 3),\ (-1, 0)$



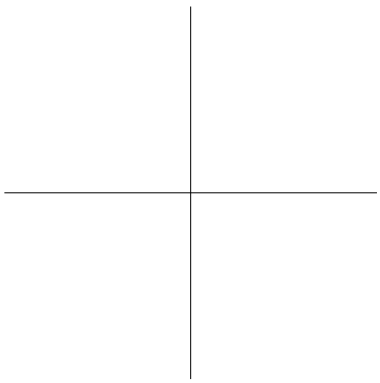
2. $(3, 2),\ (2, 5),\ (1, 4)$



3. $(1, 3),\ \ (0, 3),\ \ (2, 5)$



4. $(3, 1),\ \ (2, 2),\ \ (0, 3)$



1. $y = x^2 - 1$

2. $y = -2x^2 + 7x - 1$

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

4. $y = -\frac{1}{6}x^2 - \frac{1}{6}x + 3$