Honors Math 2

Extra Practice - Completing the Square

Use completing the square to convert each quadratic function to vertex form. Then write the coordinates of the vertex. Show work below or on separate paper.

1. $y = x^2 + 6x - 7$

2. $y = x^2 - 5x + 10$

3. $y = 2x^2 - 10x + 9$

4. $y = 3x^2 - 18x - 25$

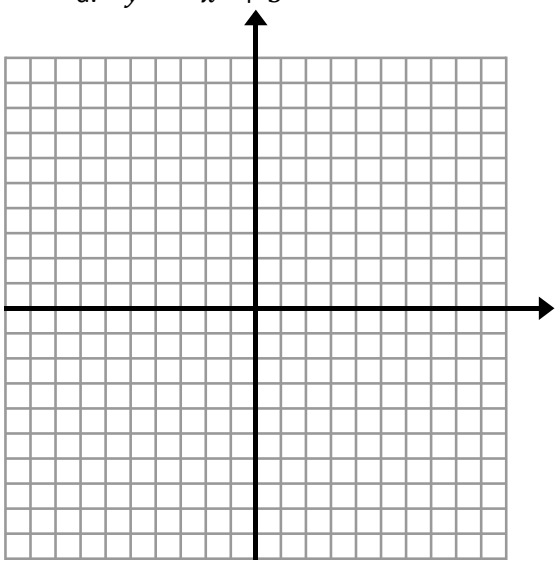
5. State the transformations of each graph from the parent function $y = x^2$.
   a. $y = -x^2 + 5$

   b. $y = 2(x + 5)^2$

   c. $y = -\frac{1}{2}x^2$

   d. $y = (x - 2)^2 - 3$

6. Graph the parent function $y = x^2$ and the given function in two different colors.
   a. $y = -x^2 + 5$



   b. $y = 2(x + 5)^2$