[quadratic functions]

1. For each of the following, complete the square:
   a. $y = -2x^2 + 4x - 5$
   b. $y = 2x^2 + 3x + 5$
   c. $y = \frac{1}{2}x^2 + x + 3$

2. On the same axis, sketch the graphs of each of the following and show the coordinates of the vertex:
   a. $y = 5(x + 2)^2 - 7$
   b. $y = 3x^2 + 12x + 5$
   c. $y = -x^2 - 3$

3. Sketch the graph of $y = x^2 - 4x + 3$ and show:
   a. The coordinates of the vertex
   b. The coordinates of the y-intercept
   c. The coordinates of the x-intercept(s)
   d. The Domain
   e. The Range

4. Find the equation of the following parabolas:
   a. Vertex (x+2=0, -11); (0, 13)
   b. Vertex (2, -4) and congruent to $y = -2x^2$

5. If $y = -x^2 - 8x + 5$ what value of x will give a maximum value of y?
6. Find 2 numbers whose difference is 12 and whose product is a minimum?
7. A store has 20 TVs to sell. If they charge $100 for each TV they can sell all 20 TVs but for every $10 increase in the price of a TV the store will sell 1 less TV.
   a. Fins the price of a TV that will give the store the maximum sales revenue.
   b. How many TVs will the store sell at that price?