

**SKETCH** each of the following quadratic equations **without the use of a calculator**.

Also find the following information for each:

- Vertex
- Axis of Symmetry
- Domain
- Range
- Opens Up/Down
- Vertical Stretch/Shrink or None
- Min/Max value

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

2.  $y = (x + 4)^2$

3.  $f(x) = -(x + 3)^2 + 5$

4.  $y = -2(x + 1)^2 - 3$

5.  $f(x) = -(x + 3)^2 + 4$

Answers will be posted on-line.

6.  $f(x) = 3(x - 3)^2 - 3$

7.  $f(x) = \frac{1}{3}(x - 3)^2 - 7$

8.  $y = 3(x - 7)^2 - 1$

9.  $g(x) = -4(x - 2)^2 + 4$

10.  $y = 2(x + 1)^2 - 3$

11.  $f(x) = -2(x - 1)^2 - 5$

12.  $y = -\frac{1}{4}(x + 2)^2 + 1$

Then, complete p. 250-251 #51, 54, 57-63 odd