Precalculus Worksheet 2.1 Parabolas   Name _____

This worksheet should be done <u>without</u> a Graphing Calculator.

For each of the following parabolas, find a) vertex form b) The vertex c) axis of symmetry d) y intercept and e) x intercepts if any. <u>Graph the parabola on a graph paper</u>.

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

Vertex Form _____
Vertex _____
Axis of Symmetry_____
Y-intercept _____
X-intercepts _____

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

Vertex Form _____
Vertex _____
Axis of Symmetry _____
Y-intercept _____
X-intercepts _____

3. $f(x) = x^2 + 2x - 8$

Vertex Form _____
Vertex _____
Axis of Symmetry_____
Y-intercept _____
X-intercepts _____

4. $f(x) = x^2 + 2x + 1$

Vertex Form _____
Vertex _____
Axis of Symmetry _____
Y-intercept _____
X-intercepts _____

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

Vertex Form _____
Vertex _____
Axis of Symmetry_____
Y-intercept _____
X-intercepts _____

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

Vertex Form _____
Vertex _____
Axis of Symmetry _____
Y-intercept _____
X-intercepts _____

7. $f(x) = 2x^2 - 8x$

Vertex Form _____
Vertex _____
Axis of Symmetry_____
Y-intercept _____
X-intercepts _____

8. $f(x) = 3x^2 + 6x + 2$

Vertex Form _____
Vertex _____
Axis of Symmetry _____
Y-intercept _____
X-intercepts _____

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

Vertex Form _____
Vertex _____
Axis of Symmetry_____
Y-intercept _____
X-intercepts _____

10. $f(x) = -4x^2 - 6x + 2$

Vertex Form _____
Vertex _____
Axis of Symmetry _____
Y-intercept _____
X-intercepts _____