Assignment: Quadratics   Date_____

Identify the vertex and axis of symmetry of each.

1) $y = -(x + 1)^2 - 6$

2) $y = (x - 3)^2 + 8$

3) $y = -3(x + 9)^2 + 2$

4) $y = -19(x + 5)^2 - 5$

5) $f(x) = 2x^2 - 16x + 32$

6) $f(y) = -y^2 + 10y - 34$

7) $f(x) = -2x^2 + 12x - 14$

8) $f(x) = -x^2 + 18x - 88$

Identify the vertex, axis of symmetry, y-intercept, and x-intercepts of each.

9) $y = -5x^2 - 80x - 300$

10) $y = -\dfrac{1}{4}x^2 - \dfrac{7}{4}x - \dfrac{3}{2}$

11) $y = x^2 - 13x + 40$

12) $y = \dfrac{1}{4}x^2 - 2x + \dfrac{7}{4}$

Answers to Assignment: Quadratics

1) Vertex: $(-1, -6)$
   Axis of Sym.: $x = -1$

2) Vertex: $(3, 8)$
   Axis of Sym.: $x = 3$

3) Vertex: $(-9, 2)$
   Axis of Sym.: $x = -9$

4) Vertex: $(-5, -5)$
   Axis of Sym.: $x = -5$

5) Vertex: $(4, 0)$
   Axis of Sym.: $x = 4$

6) Vertex: $(-9, 5)$
   Axis of Sym.: $y = 5$

7) Vertex: $(3, 4)$
   Axis of Sym.: $x = 3$

8) Vertex: $(9, -7)$
   Axis of Sym.: $x = 9$

9) Vertex: $(-8, 20)$
   Axis of Sym.: $x = -8$
   y-int: -300
   x-int: -10 and -6

10) Vertex: $\left(-\dfrac{7}{2}, \dfrac{25}{16}\right)$

    Axis of Sym.: $x = -\dfrac{7}{2}$

    y-int: $-\dfrac{3}{2}$

    x-int: -6 and -1

11) Vertex: $\left(\dfrac{13}{2}, -\dfrac{9}{4}\right)$

    Axis of Sym.: $x = \dfrac{13}{2}$

    y-int: 40
    x-int: 8 and 5

12) Vertex: $\left(4, -\dfrac{9}{4}\right)$

    Axis of Sym.: $x = 4$

    y-int: $\dfrac{7}{4}$

    x-int: 7 and 1