Pre-Calculus   Name_____

Homework - 2.2

Find the coordinates of the vertex for the parabola defined by the given quadratic function.

1) $f(x) = 8 - x^2 + 2x$

2) $f(x) = 4 - (x + 2)^2$

Find the axis of symmetry of the parabola defined by the given quadratic function.

3) $f(x) = 11(x - 4)^2 + 6$

4) $f(x) = x^2 + 5$

Find the x-intercepts (if any) for the graph of the quadratic function.

5) $f(x) = (x - 3)^2 - 9$

6) $f(x) = 4 + 5x + x^2$

7) $f(x) = x^2 - 4$

8) $f(x) = 2x^2 + 7x - 4$

Find the y-intercept for the graph of the quadratic function.

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

10) $f(x) = 5x^2 - 3x - 8$

Find the domain and range of the quadratic function whose graph is described.

11) The vertex is (-1, 6) and the graph opens down.
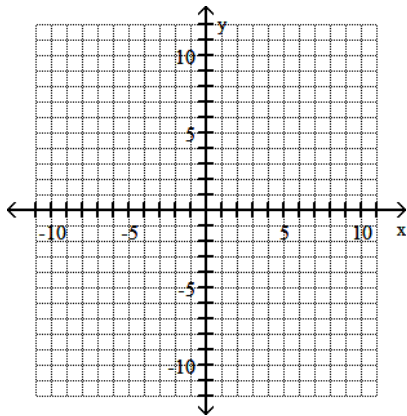
12) The maximum is -8 at x = 1

Find the range of the quadratic function.

13) $f(x) = -7(x - 5)^2 - 4$

14) $f(x) = x^2 + 2$

Use the vertex and intercepts to sketch the graph of the quadratic function.

15) $f(x) = -2x - 8 + x^2$

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