Quadratic Quiz Foundations 11

State the coordinates of the vertex, the y-intercept, and the direction of opening for the following quadratic equations.

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

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

Both points are on the same parabola. Write the equation for the axis of symmetry.

Graph each function on the grid provided.

$$f(x) = 2x^2 + 3$$

$$f(x) = \frac{1}{2}x^2 - 4x + 3$$