Practice

Analyzing Graphs of Quadratic Functions

Write each equation in the form $f(x) = a(x - h)^2 + k$. Then name the vertex, axis of symmetry, and direction of opening for the graph of each quadratic function.

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

2. $y = -2x^2 - 16x - 32$

3. $h(x) = \frac{2}{3}x^2 + 4x + 6$

4. $y = 2x^2 + 16x + 29$

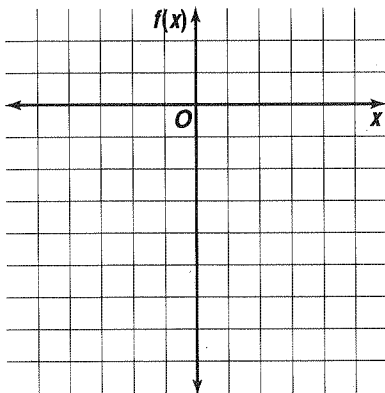**5.** $g(x) = -9x^2 + 12x - 4$

6. $y = -3x^2 + 6x - 5$

Write the equation of the parabola that passes through the given points.

7. $(0, 1), (2, -1), (1, 3)$

8. $(0, 0), (2, 3), (-1, 4)$

Graph each function.

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

10. $f(x) = -3x^2 + 6x - 5$

Algebra 2