

## Quadratic Functions

7. Determine the equation of a quadratic function that satisfies each set of conditions.

a)  $x$ -intercepts 1 and  $-1$ ,  $y$ -intercept 3

b)  $x$ -intercept 3, and passing through the point  $(1, -2)$

c)  $x$ -intercepts  $-\frac{1}{2}$  and 2,  $y$ -intercept  $-4$

8. Determine the  $x$ -intercepts, the vertex, the direction of opening, and the domain and range of each quadratic function. Then, graph the function.

a)  $y = (x + 6)(2x - 5)$

b)  $y = -2(x - 4)^2 + 1$

c)  $y = -\frac{1}{4}(x - 3)^2 + 5$

d)  $y = 5x^2 + 7x - 6$

e)  $y = -3x^2 + 5x - 2$