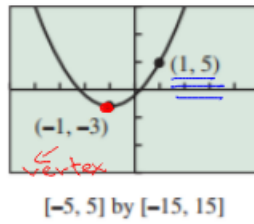
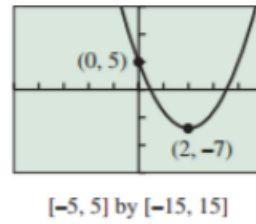


In Exercises 39–42, write an equation for the parabola shown, using the fact that one of the given points is the vertex.

39.



40.



$$f(x) = a(x-h)^2 + k \quad \text{vertex form}$$

$$f(x) = a(x+1)^2 - 3$$

use the other given point,
plug in x and y and solve
for a

$$(1, 5)$$

$$5 = a(1+1)^2 - 3$$

$$5 = a(2)^2 - 3$$

$$5 = 4a - 3$$

$$+3 \quad +3$$

$$\frac{8}{4} = \frac{4a}{4}$$

$$a = 2$$

$$f(x) = 2(x+1)^2 - 3$$

vertex form.