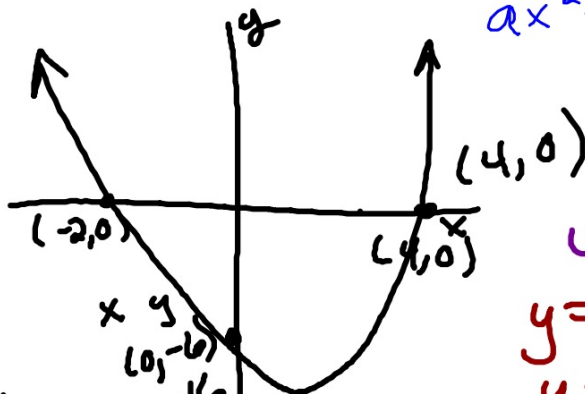


Finding the equation of a quadratic function from a graph

Ex USE THE INFORMATION IN THE GRAPH TO WRITE THE EQUATION. PUT THE EQUATION IN STANDARD FORM,

$$ax^2 + bx + c = 0$$

$$m = \frac{16 - 0}{0 - 2} = -8$$



$$y = 2(x + 2)(x - 4)$$
$$= 2(x^2 - 2x - 8)$$

$$y = 2x^2 - 4x - 16$$

Start w/
factorized form
since they gave
us x-intercepts.

$$y = a(x - b)(x - c)$$

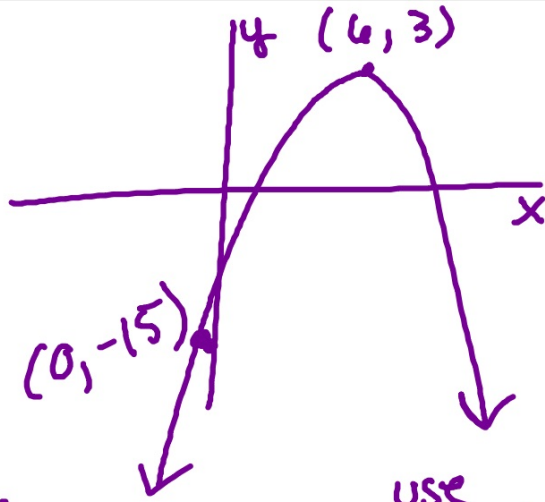
$$y = a(x + 2)(x - 4)$$

$$-16 = a(0 + 2)(0 - 4)$$

$$-16 = -8a$$

$$a = 2$$

Ex



$$x = \frac{b}{2a}$$

$$6 = \frac{-6}{2a}$$

$$12a = -6$$
$$a = -\frac{1}{2}$$

HW p.52

2 J 1, 2, 4, 7, 8

Given: vertex $(6, 3)$
y-int: $(0, -15)$

$$y = a(x-h)^2 + k$$

$$y = a(x-6)^2 + 3$$

$$-15 = a(0-6)^2 + 3$$

$$-15 = 36a + 3$$

$$-18 = 36a$$

$$-\frac{18}{36} = a$$

$$-\frac{1}{2} = a$$

$$y = -\frac{1}{2}(x-6)^2 + 3$$

$$= -\frac{1}{2}(x^2 - 12x + 36) + 3$$

$$= -\frac{1}{2}x^2 + 6x - 18 + 3$$

$$= -\frac{1}{2}x^2 + 6x - 15$$