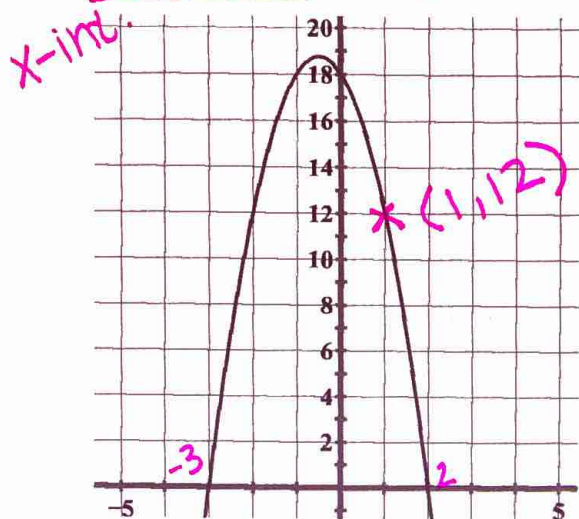


Graph to Equation

1. Write the equation of the graph in factored form and general form.



formula $y = a(x-r_1)(x-r_2)$

found $y = a(x - (-3))(x - 2)$
x-int $y = a(x + 3)(x - 2)$

plug in a point

$$12 = a(1 + 3)(1 - 2)$$

$$12 = a(4)(-1)$$

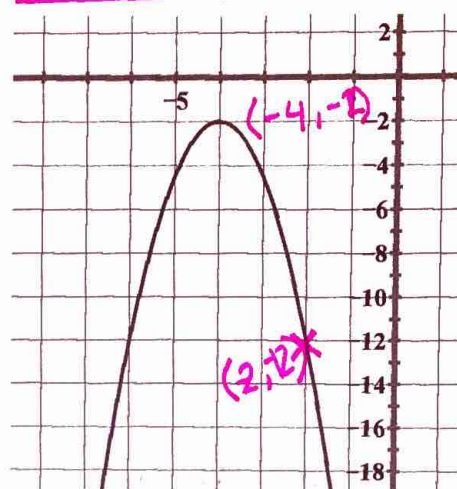
Solve for a

$$12 = -4a$$

$$-3 = a$$

final ans. $y = -3(x + 3)(x - 2)$

2. Find the equation of the graph in vertex form and general form.



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

find vertex $y = a(x + 4)^2 - 2$

plug in a point

$$-12 = a(-2 + 4)^2 - 2$$

$$-12 = a(2)^2 - 2$$

Solve for a

$$-12 = 4a - 2$$

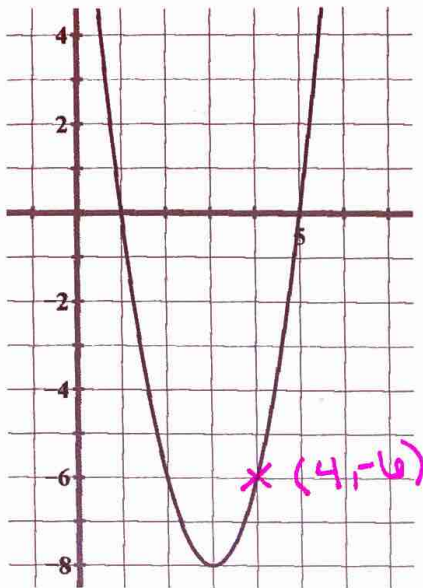
$$-10 = 4a$$

$$\frac{-10}{4} = a$$

$$-\frac{5}{2} = a$$

final ans. $y = -\frac{5}{2}(x + 4)^2 - 2$

3. Write the equation of the graph in factored form, vertex form and general form.



$$y = a(x-1)(x-5)$$

$$-6 = a(4-1)(4-5)$$

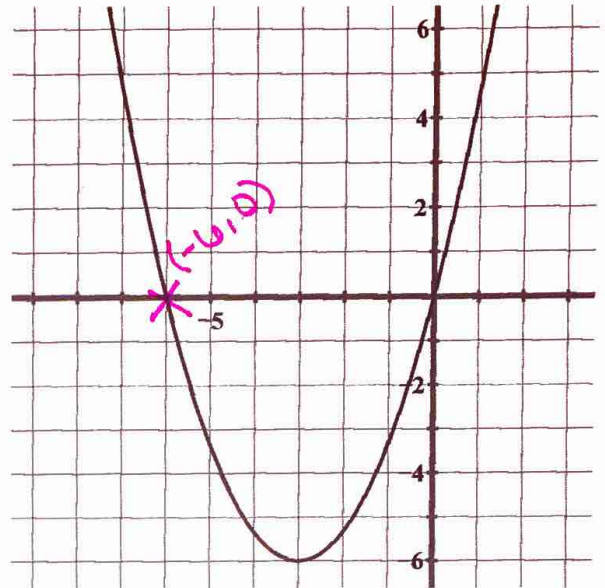
$$-6 = a(3)(-1)$$

$$-6 = -3a$$

$$2 = a$$

$$\boxed{y = 2(x-1)(x-5)}$$

4. Write the equation of the graph in factored form, vertex form and general form.



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

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

~~y =~~

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

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

$$0 = 9a - 6$$

$$6 = 9a$$

$$\frac{6}{9} = a$$

$$\frac{2}{3} = a$$

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