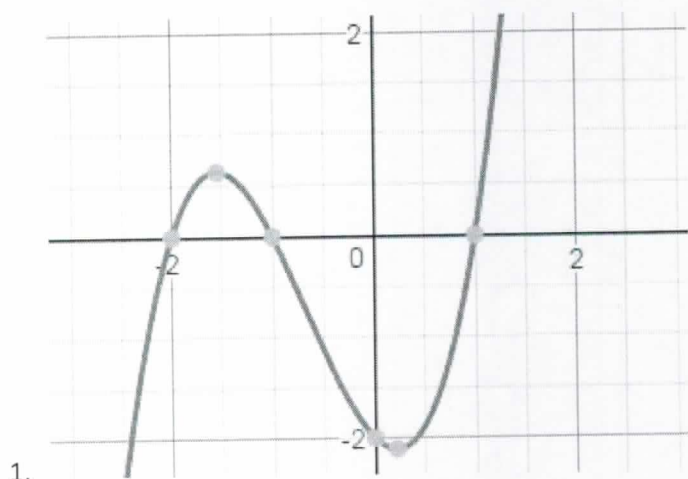


Given the graph, write the particular equation of polynomial function in factored form.



$$y = a(x+2)(x+1)(x-1)$$

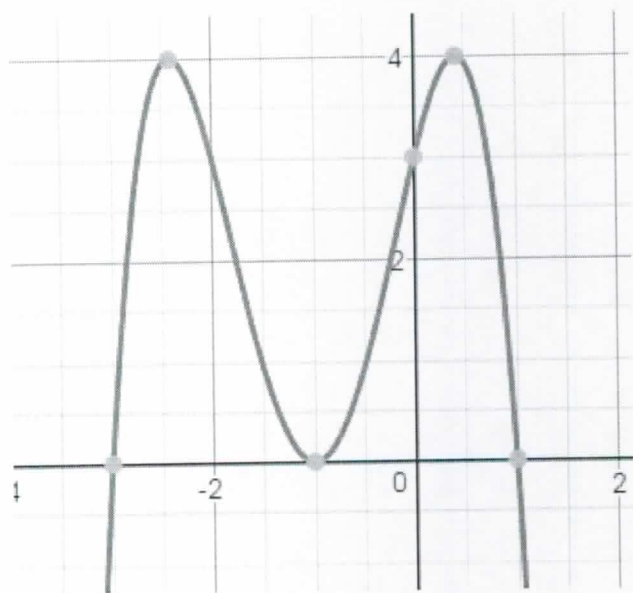
$$y\text{-int } (0, -2)$$

$$-2 = a(2)(1)(-1)$$

$$-2 = -2a$$

$$1 = -a$$

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



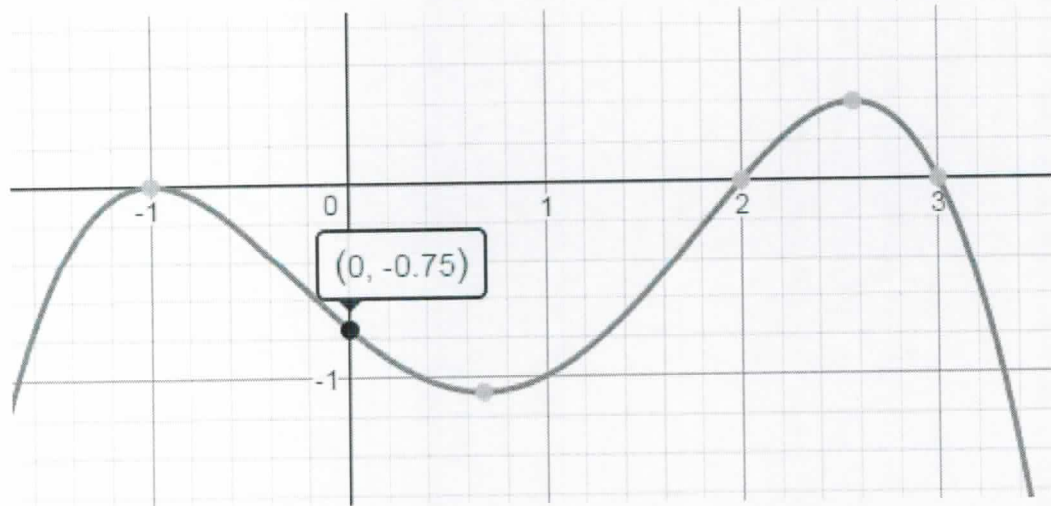
$$f(x) = a(x+3)(x+1)^2(x-1) \quad y\text{-int } (0, 3)$$

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

$$3 = -3a$$

$$-1 = a$$

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



$$y\text{-int } (0, -\frac{3}{4}) \quad f(x) = a(x+1)^2(x-2)(x-3)$$

$$-\frac{3}{4} = a(1)^2(-2)(-3)$$

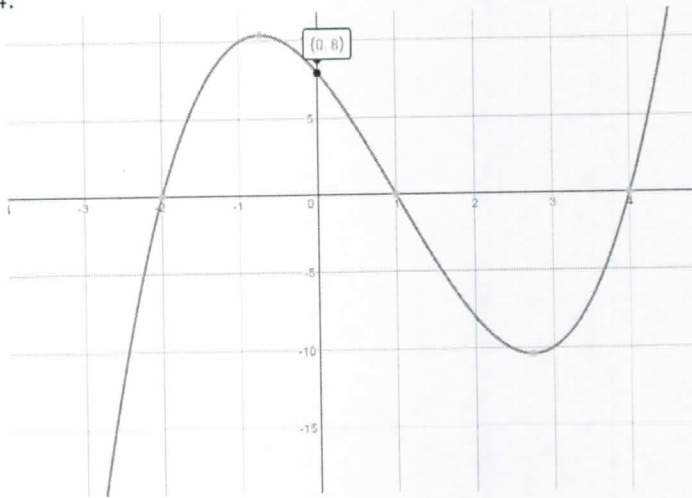
$$-\frac{3}{4} = 6a$$

$$-\frac{3}{4} \cdot \frac{1}{6} = a$$

$$-\frac{1}{8} = a$$

$$f(x) = -\frac{1}{8}(x+1)^2(x-2)(x-3)$$

4.



$$f(x) = a(x+2)(x-1)(x-4)$$

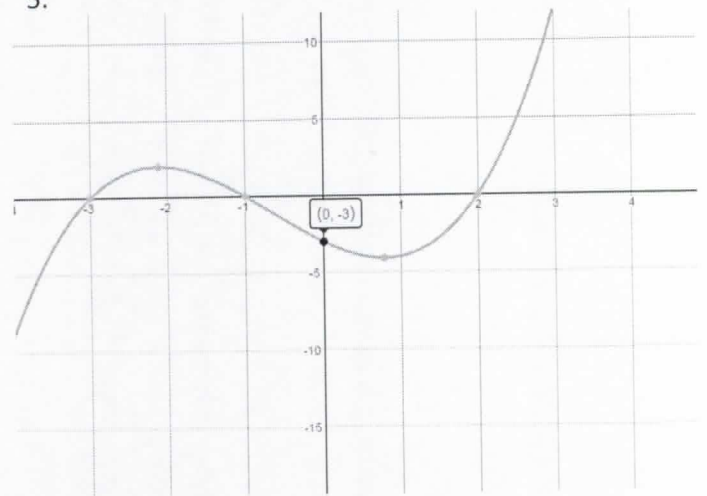
$$8 = a(2)(-1)(-4)$$

$$8 = 8a$$

$$1 = a$$

$$f(x) = (x+2)(x-1)(x-4)$$

5.



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

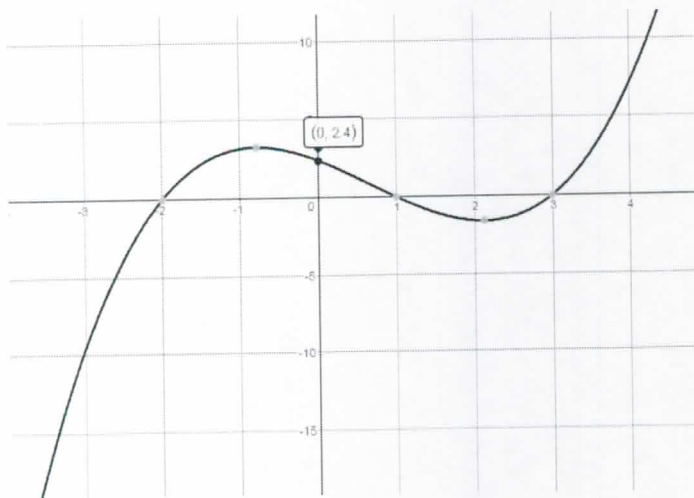
$$-3 = a(3)(1)(-2)$$

$$-3 = -6a$$

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

$$f(x) = \frac{1}{2}(x+3)(x+1)(x-2)$$

6.



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

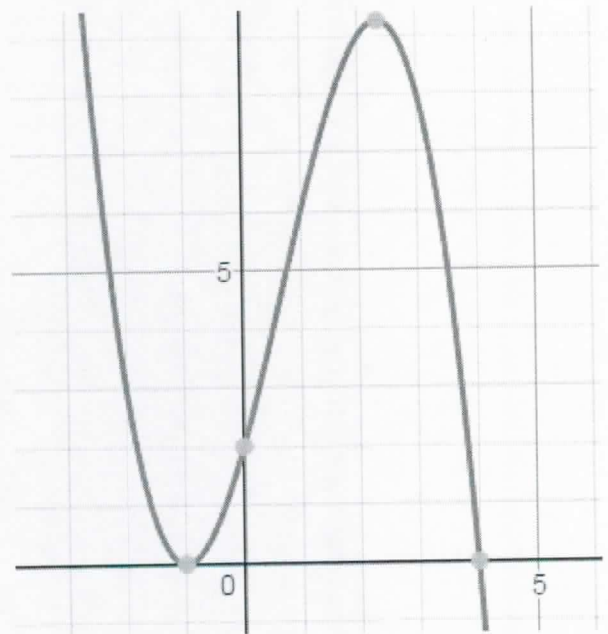
$$2.4 = a(2)(-1)(-3)$$

$$2.4 = 6a$$

$$.4 = a$$

$$f(x) = .4(x+2)(x-1)(x-3)$$

7.



$$f(x) = a(x+1)^2(x-4) \quad y\text{-int } (0, 2)$$

$$2 = a(1)(-4)$$

$$2 = -4a$$

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

$$f(x) = -\frac{1}{2}(x+1)^2(x-4)$$