

Exercise 62

For the following exercises, use the given information about the polynomial graph to write the equation.

Degree 3. Zeros at $x = 4$, $x = 3$, and $x = 2$. y -intercept at $(0, -24)$.

Solution

Based on the zeros, the model polynomial function is

$$f(x) = A(x - 4)(x - 3)(x - 2).$$

Use the provided point $(0, -24)$ to determine A .

$$-24 = A(0 - 4)(0 - 3)(0 - 2) \rightarrow -24 = A(-24) \rightarrow A = 1$$

Therefore,

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

