

Exercise 61

The y -intercept is $(0, -4)$. The x -intercepts are $(-2, 0)$, $(2, 0)$. Degree is 2. End behavior: as $x \rightarrow -\infty$, $f(x) \rightarrow \infty$, as $x \rightarrow \infty$, $f(x) \rightarrow \infty$.

Solution

The x -intercepts reveal the structure of the function.

$$\begin{aligned} f(x) &= (x + 2)(x - 2) \\ &= x^2 - 4 \end{aligned}$$

The function is graphed below, and the intercepts are labelled.

