

## Exercise 5

What can we conclude if, in general, the graph of a polynomial function exhibits the following end behavior? As  $x \rightarrow -\infty$ ,  $f(x) \rightarrow -\infty$  and as  $x \rightarrow \infty$ ,  $f(x) \rightarrow -\infty$ .

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### Solution

Since  $f(x) \rightarrow -\infty$  at both ends, the polynomial function has an even degree, and the coefficient multiplying the variable with the highest power (the leading coefficient) is negative.