Exercise 24

Sketch the graph of f by hand and use your sketch to find the absolute and local maximum and minimum values of f. (Use the graphs and transformations of Sections 1.2 and 1.3.)

$$f(x) = |x|$$

Solution

A domain isn't specified, so the function's entire domain is used.

$$-\infty < x < \infty$$

There's an absolute and local minimum,

$$f(0) = |0| = 0,$$

as the graph below illustrates. It's local because it does not occur at the domain's endpoints.