

Exercise 23

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.)

$$f(x) = \ln x, \quad 0 < x \leq 2$$

Solution

A graph of the function is shown below. The interval $0 < x \leq 2$ is closed on the right side, so there's an absolute maximum:

$$f(2) = \ln 2 \approx 0.693147.$$

