Exercise 10

Sketch the graph of a function f that is continuous on $[1, 5]$ and has the given properties.

Absolute maximum at 2, absolute minimum at 5, 4 is a critical number but there is no local maximum or minimum there.

Solution

Below is the graph of a function that satisfies the conditions. Recall that a critical number is either where the tangent line to the graph is horizontal or where the derivative does not exist.