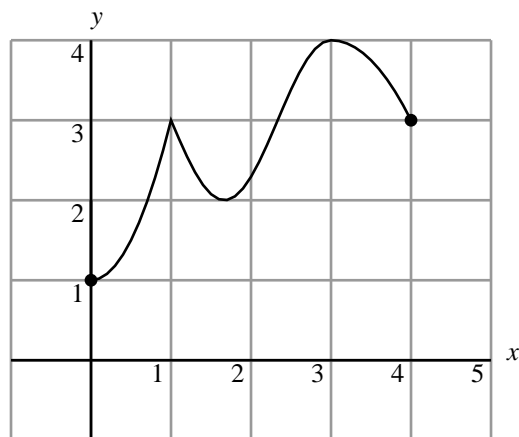


1. Sketch the graph of a function f satisfying the following:

- f is continuous on $[0, 4]$
- f has a local maximum at 1
- f is not differentiable at 1, but is differentiable at all other points in $(0, 4)$
- f has an absolute maximum at 3
- the absolute minimum value of f is 1.

Here is one solution:



2. Sketch the graph of a function f satisfying the following:

- f is defined on $[0, 4]$, and continuous on $(0, 4)$.
- f is differentiable on $(0, 4)$.
- f has a local maximum at 2
- $f'(3) < 0$
- f has no absolute maximum or minimum on $[0, 4]$.

Here is one solution:

