

You can put students in groups to discuss this or discuss as a class:

True or false and why?

- 1) If c is a critical number of f , then f has a relative extrema at $(c, f(c))$.
- 2) If a function is continuous on a closed interval it must have a minimum on that interval.
- 3) If the graph of a function has exactly three x-intercepts, then it must have at least two points where it has a horizontal tangent line.

Suppose you are given the graph of the derivative of f , what kind of information can you gather about f ?

Below is the graph of f' . Find the critical numbers, state the intervals where the function f is increasing and/or decreasing and identify the local extrema.

