

Do Now:

Determine if each of the following statements is true or false. If you decide a statement is false, provide a counterexample to show why it is false and then rewrite the statement in order to make it true. Unless otherwise specified, assume each function is defined and continuous for all real numbers.

1. A critical point (or critical number) of a function f of a variable x is the x -coordinate of a relative maximum or minimum value of the function.
2. A continuous function on a closed interval can have only one maximum value.
3. If $f''(x)$ is always positive, then the function f must have a relative minimum value.
4. If a function f has a local minimum value at $x = c$, then $f'(c) = 0$.