

Quiz 6

Name:

2017/03/09

This quiz has 7 questions worth 12 points on 1 pages. Try to do as many questions as possible. You can use your calculator.

1. (1 point) [**True** or **False**] If a continuous function f is defined on a closed interval $[a, b]$, then f must have a local maximum
2. (1 point) [**True** or **False**] If a continuous function f is defined on an open interval (a, b) , then both a and b are critical points of f .
3. (1 point) [**True** or **False**] If p is a critical point of the function f , then $f'(p) = 0$
4. (1 point) [**True** or **False**] If a continuous function f has only one critical point in its domain, then that point has to be a global extremum.
5. (1 point) [**True** or **False**] If a point p in the domain of f satisfies $f'(p) = 0$ and $f''(p) < 0$, then p must be a local maximum of f
6. (1 point) [**True** or **False**] A point p in the domain of f is called a inflection point if $f''(p) = 0$
7. (6 points) Find the global maxima and minima of $f(x) = x^3 - 9x^2 - 48x + 52$ on the following intervals
 - $-5 \leq x \leq 12$
 - $-5 \leq x \leq 14$
 - $-5 \leq x < \infty$