Quiz 10

MATH 139-02
Tuesday, March 16, 2004

1. Let $f(x) = x^3 - 3x^2 - 9x + 15$.

   (a) Find the local extrema of $f(x)$. Give the x- and y-coordinates of each extremum you find. You may use your calculator to check your work, but you must use calculus to find the extrema!

   (b) Use the first derivative test to determine for each extremum whether it is a maximum or a minimum.

   (c) Now use the second derivative test to verify your results in part (b).

2. Sketch the graph of a function that has a critical point at $x = 0$ but does **not** have a local extremum at $x = 0$.