

SI Session: June 26th
Mondays – Thursdays
12:30 PM – 2:00 PM
Room 1229

Prof. Stockton : Calculus I
Summer I 2008
SI Leader : Neil Jody

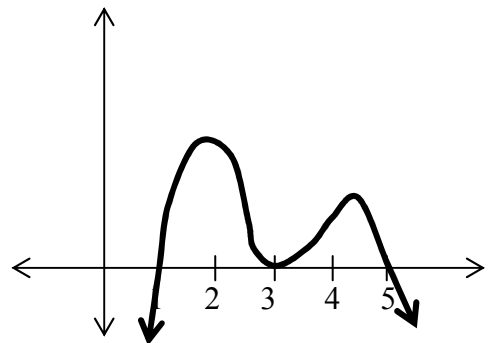
[1] If $x = \tan y$, calculate $\frac{d^2y}{dx^2}$.

[2] Find the absolute maximum and minimum values of $f(x) = x - 3x^{2/3} + 4$ on the interval $[-8, \frac{125}{8}]$.

- [3] Find the absolute extrema of the function $f(x) = \frac{1}{2} \cos 2x + \sqrt{3} \sin x$ on the interval $[0, \pi]$.

- [4] The graph of the *derivative* of a function f is given below. Use the graph to determine each of the following:

- (a) the relative maxima of f
(b) the relative minima of f



[5] Find an equation of the line tangent to the graph of $y^3 - x^2y + 4x = 7$ at the point $(-2,3)$.

[6] Find the open intervals on which $f(x) = \frac{12x}{x^2 + 4}$ is increasing or decreasing, and find the relative extrema.

[7] Find the intervals on which the function $g(x) = 3x^5 + 10x^4 - 7$ is concave up or down, and identify any inflection points.

[8] For the curve given by $y^2 + x^2y^3 + 11 = 4x$, find an equation of the tangent line at the point $(2, -1)$. Write the equation in the form $y = mx + b$.