Homework on finding max/min points via calculator:

(1.) Find the absolute max of $g(x) = \dfrac{2x}{3+x^2}$ on $[0, 4]$.
Give both coordinates of the point where this max occurs.

(2.) Find the absolute min of $f(x) = 3 + \sqrt{\sqrt{x^2}}$ on $[-1, 1]$

Hint: This is not quite the same as $3+\sqrt{x}$, rather it is really $3+\sqrt{|x|}$. Enter the function on the calculator as:

[3] [+] [√] [(] [√] [(] [X-Var] [x^2] [)] [)]

in other words, use $3+\sqrt{}(\sqrt{}(x^2))$
Give both coordinates of the point where the min occurs.

(3.) You are the campaign manager for a politician known as "Slippery Harry". You have estimated that running x political ads per hour of TV time helps the election campaign by the amount $H(x) = \dfrac{20(6x-x^2)}{10x^2-60x+100} - .025x^3$ where x can range from 0 to 6. (You cannot buy more than 6 ads per hour.) To be specific, $H(x)$ gives the net number of people (in thousands) who will vote for Slippery Harry because of the x ads. If $H(x)$ is negative, this represents a net number of people (in thousands) who will not vote for Harry because of the ads.

a) As a good campaign manager you want to maximize the help your candidate will get from the TV ads. Find this maximum and the number of ads to buy to obtain it.

b) You've had it with Slippery Harry and decide to do all you can to see that he loses. How many ads per hour do you buy? What is $H(x)$ for this number of ads?

When finished, answer the online questions found under our course web page