Math 2554 Quiz 8: $\oint$ 4.2-4.4 **Name:** _____
Tues 4 Nov 2014

You have 25 minutes to complete this quiz. Eyes on your own paper and good luck!

1. Let $f(x) = 2 + \cos 2x$, for $-\pi \leq x \leq \pi$.

   (a) Determine the intervals on which f is concave up or concave down.

   (b) Identify any inflection points.

2. Use the 2nd Derivative Test to identify all local extrema on the function $g(x) = 2x^4 + 9x^3 + 12x^2 - x - 2$.

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3. A rectangle is constructed with its base on the x-axis and two of its vertices on the parabola $y = 16 - x^2$. What are the dimensions of the rectangle with the maximum area? What is the maximum area?