

**Homework: Sections 4.1, 4.3 and 4.7** *Due: Tuesday, November 1*

- I. Do Section 4.1, problem #44. **Tip:** In the process you should find yourself solving  $\cos^2(x) = \frac{1}{4}$ . Make sure you deduce from this that  $\cos(x) = -\frac{1}{2}$  or  $\frac{1}{2}$ . Evaluate each of these to get all of the critical numbers.
- II. Do Section 4.1 #58. **Tip:** Note that in this problem, you only need to find the critical numbers of  $f$  that lie in the interval  $[-\pi, \pi]$ . Use a table as you did in part II of the activity to determine which of your critical numbers and end points are global maxima and minima.
- III. Do Section 4.3 #36. **Extra instructions:** In finding the information in parts (a) and (c), draw number lines. Label one number line “Number line for  $g'$ ” and the other, “Number line for  $g''$ .” Draw your graph large enough to read, and on the graph, label the local maxima and minima and the inflection points.
- IV. Do Section 4.7 #9 and #10.
- V. Do Section 3.10 #22.