18.01, September 8, 2003

Recitation suggestions

1. Compute another derivative by hand, say

(a) x^3-4x at x_0=2 and x_0 arbitrary

(b) x^4-$2x^2$+1 at x_0=-1 and x_0 arbitrary

(c) $\frac{1}{x}$ if you are adventurous

2. Remind students about binomial theorem $(a+b)^n = a^n+na^{n-1}b+(\frac{n}{2})a^{n-2}b^2+\ldots+ nab^{n-1}+b^n$

where $\left(\frac{n}{k}\right) = \frac{n!}{k!(n-k)!}$ and m!=m(m-1)(m-2)…

DON'T PROVE IT! But mention it and show why it is true for n=2 (maybe n=3).

3. <u>Briefly</u> explain $\frac{d}{dx}(x^n) = nx^{n-1}$ using B.T.

4. Discontinuities. Remind what removable, jump, ∞ and ???

5. 1D-3

6. 1C-2 (will be helpful for PS#1, Prob.3)

7. 1C-4 (one or two of these)

Probably don't have time for all of this.

If extra time, could do 1D-5, 1D-6, or 1D-7

For (3), please show them formula, but only "indicate" the reason (too much algebra)