Math 131 Day 1 Hand In. Name: _____

Warm up exercises. Work neatly and in pencil.

1. State the Mean Value Theorem (MVT) and draw a picture (different than the one in the text) which illustrates its meaning. Note: the MVT is the single most important theorem in Calculus I and we will use it again this term.

2. State the **derivatives** of the following functions. Review if necessary.

   a) $f(x) = 2\cos x + \arcsin x; \qquad f'(x) =$

   b) $h(t) = t^2 \tan t; \qquad h'(t) =$

3. Determine these **antiderivatives**.

   a) $\displaystyle\int \sin 3x + 2\sec x \tan x \, dx =$

   b) $\displaystyle\int \sqrt{x} - 4e^x + 1 \, dx =$

4. Evaluate $\displaystyle\lim_{x \to 0} \frac{e^x - 1}{\ln(x+1)}$

Background Information

1. Name (and nick name): _____ Section 8:00 AM

2. Year: FY, SO, JR, SR College: HC, WSC

3. Phone number:

4. Advisor:

5. (Potential) Major(s):   Minor(s):

6. I am taking this course because

7. What was your favorite course at HWS? Why was this course your favorite?

8. Career interests and aspirations:

9. Hobbies, sports, or other activities that you enjoy (other than doing math!):

10. The most important thing I should know about you is:

11. I have read the syllabus and understand both the grading and the attendance policies. I understand that missing more than three classes and/or labs will lower my grade and that missing more than six may lead to automatic expulsion from the course.

    Signature: _____