Math 1B (7:30am – 8:20am)
Quiz 2
Fri Oct 2, 2009

What month is your birthday ? ___ ___
What are the first 2 digits of your address ? ___ ___
What are the last 2 digits of your zip code ? ___ ___
What are the last 2 digits of your social security number ? ___ ___
[IF YOU DO NOT HAVE A SOCIAL SECURITY NUMBER, USE YOUR STUDENT ID NUMBER]

[MULTIPLE CHOICE] Which function and interval does the Integral Mean Value Theorem **NOT** apply to ? **SCORE: ___ / 2 POINTS**
(In other words, which function and interval does **NOT** satisfy all the "if" conditions of the theorem ?)
DO NOT TRY TO FIND THE AVERAGE VALUE OR THE "c" VALUE.

[A] $f(x) = \cos x$ on $[0, 2\pi]$

[B] $f(x) = \frac{1}{x}$ on $[-3, -2]$

[C] $f(x) = x^{2009}$ on $[12, 25]$

[D] $f(x) = \ln|x|$ on $[-1, 1]$ NOT CONTINUOUS AT $x = 0$

LETTER OF CORRECT ANSWER: [D]

Give the complete definition of the definite integral. **SCORE: ___ / 2 POINTS**

THE DEFINITE INTEGRAL OF f OVER $[a,b]$

$\int_a^b f(x)\,dx = \lim_{n\to\infty} \sum_{i=1}^{n} f(x_i)\Delta x$ WHERE $\Delta x = \frac{b-a}{n}$ $\frac{1}{4}$

AND $a + (i-1)\Delta x \le x_i \le a + i\Delta x$ $\frac{1}{4}$

$\frac{1}{4}$ IF THE LIMIT EXISTS, AND IS THE SAME REGARDLESS OF THE CHOICE OF THE x_i, $\frac{1}{4}$