form 2

Math 101
Quiz 1

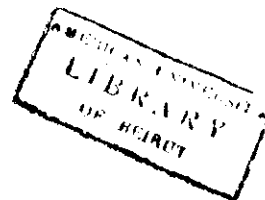November 8, 2003

NAME.   AUB ID #:

Sections Ms. M. Jurdak: 8TTh, 3W.   8TTh, 1W. 8Th, 4W.
                              8TT, 12:30Th.
Sections Prof. A. Hanna: 9MWF, 2Th. 9MWF, 11Th. 9MWF, 3:30Th.
                              9MWF, 9:30Th

Time: 1 Hour

INSTRUCTIONS.

1. Write your **NAME** and **AUB ID** number above, and **CIRCLE** your section.
2. Solve the problems on the white sheets at the appropriate place. Use the blue booklet for scratch work only.
3. You may use the back pages of the white sheet to solve or complete the solution of a problem.
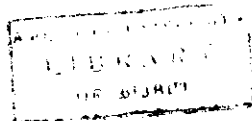4. No calculators, books or notes allowed.

Problem 1   /10

Problem 2   /10

Problem 3   /10

Problem 4   /10

Total   /40

1. Evaluate $\lim\limits_{x \to 0} \dfrac{\dfrac{1}{2x-5} + \dfrac{1}{5}}{2x}$.

2. Evaluate $\lim\limits_{x \to 0} \sin\left(\dfrac{\pi + \tan x}{\tan x - 2\sec x} \right)$

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3. Let $f : (0, \pi/2) \to R$ be given by $f(x) = 2x - 3\cos x$. prove that there exists point c in $(0, \pi/2)$ such that $f(c) = 0$.

4. Let $f : R \to R$ be given by $f(x) = \sqrt{4x^2 + 3}$. Calculate $f'(x)$ from the first principles