MAT 123: Introduction to Calculus

Exam 1, Spring 2007

Wednesday, February 21, 8:30pm - 9:30pm

Directions: Do not turn this page over until you are directed to do so. Please fill in your name and your Stony Brook ID number on the lines below. Please then circle the recitation/evening lecture you belong to in the chart below. There are a total of 4 pages to this exam, not including the cover sheet. Be sure to have all of them. There are four questions on this exam. Point values for each question are shown in brackets to the right of the question number. There are 100 possible points one can earn on this exam. You may not leave the exam room until 9:00pm at the earliest. You may not use a calculator or any other electronical device for this exam. You may not consult any outside resources, including fellow test-takers, notes, and textbooks. You will also not receive any information from the proctors regarding the wording of any of the exam questions.

ame:		Student ID#:	
RECITATION	Time	Place	LEADER
REC 01	M 11:45am-12:40pm	Physics P117	Grigoryan, Suren
REC 02	Th 9:50am-10:45am	Library N3063	Kifle, Hagos
REC 03	Tu 11:20am-12:15pm	Physics P123	Vigilante, Richard
REC 05	W 11:45am-12:40pm	Library N4000	Wertz, Deb
REC 08	M 3:50pm- 4:45pm	Library N3063	Agcaian, Peter
REC 09	Th 9:50am-10:45am	Physics P117	Cheng, Jonathan
REC 10	Tu 11:20am-12:15pm	Library N3063	Ionas, Radu
REC 12	M 11:45am-12:40pm	Lt Engineering 154	Weng, Luoying
REC 13	W 11:45am-12:40pm	Lt Engineering 154	Weng, Luoying
REC 14	Th 11:20am-12:15pm	Library N3063	Vigilante, Richard
REC 15	Th 11:20am-12:15pm	Earth and Space 181	Ionas, Radu
ELC 90	TuTh 6:50pm-8:10pm	Physics P118	Bianculli, Nicholas

Name:

QUESTION	1(a)	1(b)	1(c)	1(d)	1(e)	1(f)	1(g)	1(h)	1(i)	2	3	4	Total
Possible Pts	8	8	8	8	8	8	8	8	8	8	10	10	100
Pts Awarded													

1. [72 points total, 8 points for each part] A correct final answer here will receive full credit provided that the answer is *completely* correct (i.e., with no sign error or any other error) even if no work is shown. Any error will result in 0 points in each part unless coherent, relevant work and/or explanation is shown. Find the *exact* value of each of the following. Do *not* approximate irrational numbers. Place your final answer in the answer line to the right of the question. This is the only final answer that will be graded.

(a) $\tan \pi$

(b) Arcsin $\left(-\frac{\sqrt{3}}{2}\right)$

(c) $\sec\left(-\frac{2\pi}{3}\right)$

(d) $\cot(\frac{\pi}{6})$

(b) _____

(a) _____

(c) _____

(d) _____

Question 1 continued.	Directions are on the previous page.	
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(e)	$\operatorname{Arctan}(-1)$
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		(e)
(f)	$\csc(225^\circ)$	

(g) $\sec\left(\operatorname{Arcsin}(\frac{2}{3})\right)$

(h) $\sin(-450^{\circ})$

(i) $\operatorname{Arccos}(\frac{1}{2})$

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(g) _____

(f) _____

(h) _____

(i) _____

2. [8 points] Graph one cycle of

$$f(x) = -3\cos\left(7\pi x\right)$$

on a *scaled* set of axes.

3. [10 points] Solve the following equation for x where $0 \le x < 2\pi$.

 $2\cos^2 x = \cos x$

4. [10 points] Find all solutions (i.e., find the general solution) to the equation $\sin^2 x = \frac{3}{4}$.