MATH 140A MIDTERM EXAMINATION II October 27, 2003

Name_____ ID #_____ Section #_____

There are 8 multiple choice questions, 10 True/False questions, and 4 free response questions. **To receive full credit for free response questions (problems 10, 11, 12 and 13) all work must be shown.**

THE USE OF CALCULATORS IS NOT PERMITTED IN THIS EXAMINATION.

THERE ARE 13 PROBLEMS ON 10 PAGES, INCLUDING THIS ONE.
CHECK YOUR BOOKLET NOW.

The space below is for the instructor's use.

MC _____

T/F _____

10. _____

11. _____

12. _____

13. _____

Total _____

1. (5 pts.) $\tan(-\pi/3) =$

   a) -1

   b) $-1/2$

   c) $-1/\sqrt{2}$

   d) $-\sqrt{3}/2$

   e) $-\sqrt{3}$

2. (5 pts.) If a ball is thrown vertically upward with a velocity of 96 ft/s, then its height after t seconds is $s = 96t - 16t^2$ in feet. What is the maximum height reached by the ball?

   a) 56 ft

   b) 64 ft

   c) 72 ft

   d) 144 ft

   e) 288 ft

3. (5 pts.) If θ is an obtuse angle with $\sin\theta = 3/5$, then

a) $\tan\theta = 3/4$

b) $\tan\theta = -4/5$

c) $\cos\theta = -3/5$

d) $\cos\theta = -4/5$

e) $\cot\theta = 3/4$

4. (5 pts.) $\lim_{x\to 0} \dfrac{x^2 - \sin^2(3x)}{2x^2} =$

a) -1

b) -2

c) -3

d) -4

e) Does not exist.