QUIZ #3: CALCULUS 1A (Stankova)
Wednesday, February 11, 2004
Section 10:00–11:00 (Voight)

Name:

Please complete the following problem(s) in the space provided. You may *not* use a calculator. You will have 15 minutes to complete the quiz.

Please include all relevant intermediate calculations and explain your work when appropriate.

Problem 1.

(a) *Find the slope of the tangent to the parabola* $y = 1 - 3x + x^2$ *at the point where* $x = a$.

(b) *Find the slope of the tangent lines at the points whose* x*-coordinates are* (i) 0 *and* (ii)1.

QUIZ #3: CALCULUS 1A (Stankova)
Wednesday, February 11, 2004
Section 11:00–12:00 (Voight)

Name:

Please complete the following problem(s) in the space provided. You may *not* use a calculator. You will have 15 minutes to complete the quiz.

Please include all relevant intermediate calculations and explain your work when appropriate.

Problem 1. *Prove that the equation*

$$x^4 - 3x^2 = 13$$

has at least one real root. Please verify in writing all hypotheses and conditions of any theorem you apply and explain your work.