Name ________________________________

(circle your TA discussion section)

▷ AD1, TR 11:00-11:50, Amita Malik
▷ AD3, TR 1:00-1:50, Neha Gupta
▷ AD5, TR 2:00-2:50, Neha Gupta
▷ AD8, TR 1:00-2:50, Hannah Kolb-Spinoza
▷ BD1, TR 2:00-2:50, Stephen Longfield
▷ BD3, TR 11:00-11:50, Michael Santana
▷ BD5, TR 2:00-2:50, Stephen Berning
▷ BD7, TR 3:00-3:50, Stephen Berning
▷ AD2, TR 1:00-1:50, Amita Malik
▷ AD4, TR 1:00-1:50, Meghan Galiardi
▷ AD7, TR 3:00-3:50, Meghan Galiardi
▷ AD9, TR 9:00-10:50, Vicki Reuter
▷ BD2, TR 8:00-8:50, Eliana Duarte
▷ BD4, TR 9:00-9:50, Eliana Duarte
▷ BD6, TR 1:00-1:50, Faruk Temur
▷ BD8, TR 3:00-3:50, Stephen Longfield

• You may work with other students in this class. However each student should write up solutions separately and independently – nobody should copy someone else’s work.

• You may use your notes or the textbook.

• The quiz should be submitted to Mr. Murphy before the bell rings at the beginning of your official lecture period on Monday, April 23rd. Late quizzes will not be accepted after the end of lecture.

• There is a higher expectation for the quality of your work on a take-home quiz. Everything should be written logically and legibly with sufficient work to justify each answer. Blank copies of the quiz are available on the course home page.

• Be sure that the pages are nicely stapled – do not just fold the corners.

• Note to TAs and Tutors – you should not help students with these specific problems or go over solutions until after 5pm Monday.
1. (6 points) The absolute minimum value of the function \( f(x) = x^4 + 2x^2 - 32x + 25 \) occurs at its only critical number. Determine the \( x \)-value for the absolute minimum value of \( f(x) \) by applying Newton’s Method to an appropriate function with an initial estimate of \( x_1 = 1 \). You should use this method 3 times in order to obtain estimates \( x_2, x_3 \) and \( x_4 \). Do all of the work by hand and show the appropriate steps when you compute \( x_2 \). For \( x_3 \) and \( x_4 \) you should show the computations that need to be done but you can use a calculator to actually do the arithmetic.
2. (4 points) Use a linear approximation in order to estimate the value of $\ln(0.75)$. You are not allowed to use a calculator for this problem.