King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

Math 105 (Term 183)
Quiz 1 (Duration = 20 minutes)

Student Name: _____ Student ID: _____

Exercise 1. [6 points] The average daily cost C for a room at a city hospital has risen by \$60 per year for the years 2000 through 2010. If the average cost in 2006 was \$681, what is an equation which describes the average daily cost C, as a function of the number of years, T, since 2000?

Exercise 2. [7 points] A person invested \$100,000, part at an interest rate of 3.5% annually and the remainder at 5.5% annually. The total interest at the end of one year was equivalent to an annual 4.5% rate on the entire \$100,000. How much was invested at 3.5%?

Exercise 3. [7 points] A toy rocket is launched straight up from the roof of a garage. The height h of the rocket in meters, t seconds after it was released, is described by the function $h(t) = -16t^2 + 64t + 13$. After how many seconds will the rocket reach its maximum height? What is the maximum height