Department of Mathematics and Statistics KFUPM
STAT 302-02 Quiz#2, Time: 25 mins

Student's Name: _____ ID: _____

Q.No.1:- An anthropologist wishes to estimate the average height of men for a certain race of people. If the population standard deviation is assumed to be 2.5 inches and if she randomly samples 100 men, find the probability that the difference between the sample mean and the true population mean will not exceed .5 inch.

Q.No.2:- A forester studying the effects of fertilization on certain pine forests in the Southeast is interested in estimating the average basal area of pine trees. In studying basal areas of similar trees for many years, he has discovered that these measurements (in square inches) are normally distributed with standard deviation approximately 4 square inches. If the forester samples n = 9 trees, find the probability that the ratio of sample variance and population variance (s^2/σ^2) will be greater than 1.67.