Department of Mathematics and Statistics KFUPM
STAT 301-01 Quiz#3, Time: 15 mins

Student's Name: _____ ID: _____

Q.No.1: - From past experience, a professor knows that the test score of a student taking her final examination is a random variable with mean 75.

(a) Give an upper bound for the probability that a student's test score will exceed 85.

Suppose, in addition that the professor knows that the variance of a student's test score is equal to 25.

(b) What can be said about the probability that a student will score between 65 and 85.

(c) How many students would have to take the examination to ensure with probability at least 0.9 that the class average would be within 5 of 75? Do not use the central limit theorem.

(d) Use the central limit theorem to solve part (c).

Best of Luck