Name: _____   ID #: _____

1) For a random sample of 61 measurements on the breaking strength of cotton threads, the mean breaking strength was found to be 210 grams and the standard deviation 18 grams.

   a) Obtain a confidence interval for the true mean breaking strength of cotton with confidence coefficient 0.90.

   b) What assumptions do you need, if any, on the distribution of the breaking strength?

   c) How many measures on breaking strength should be used in the next experiment if the estimate of the mean breaking strength is to be within 2 grams of the true mean breaking strength with confidence coefficient 0.9?

2) Careful inspection of 70 precast concrete supports to be used in a construction project revealed 28 with hairline cracks. Estimate the true proportion of supports with this type of crack in a 98% confidence interval.