

Probability and Statistics in Engineering, Fall 2016

Exercise#8

1. An electrical firm manufactures light bulbs that have a length of life that is approximately normally distributed with a standard deviation of 40 hours. If a sample of 30 bulbs has an average life of 780 hours, find a 96% confidence interval for the population mean of all bulbs produced by this firm.

2. The heights of a random sample of 50 college students showed a mean of 174.5 centimeters and a standard deviation of 6.9 centimeters.
 - (a) Construct a 98% confidence interval for the mean height of all college students.
 - (b) What can we assert, with 98% confidence, about the possible size of our error if we estimate the mean height of all college students to be 174.5 centimeters?