Review Problem

You are interested in the average diameter μ of the trunk of a Douglas Firs in a forest. You know that the population standard deviation is 0.2 m. You take a sample of size 40 and find the sample average $\bar{x}$ equals 1.4m. What is a 80% confidence interval for μ based on this sample?

Review Problem

You wish to estimate μ, the average tree diameter in the forest, so that the margin of error is no more than 0.005m. You require the interval to have confidence level 90%. How big a sample must you take?

Trial of the Pyx

Suppose each coin is supposed to weigh 1gm. The standard deviation in weight in the population of all coins is known to be 0.1. You weight 100 coins and find the sample average $\bar{x}$ equals 0.97. Do you believe that the population average really equals 1 gm?

A new treatment

In the past, the average weight of a tomato from your garden was 6oz, with a standard deviation of 0.9oz. You try new soil. In a sample of size 25, you find the average weight $\bar{x}$ of tomatoes in your sample to be 6.2. Is there good evidence that tomatoes grown in the new soil have a different average weight than from the average weight in the old soil?