

Math 1030 November 28, 2006 Homework 18

Text problems: 7.3 # 4, 5, 6, 8, 9

$$\mu = \bar{X} \pm t_{\alpha/2} \left(\frac{s}{\sqrt{n}} \right) \quad \text{degrees of freedom in table F are } n - 1 \text{ when looking up } t_{\alpha/2}$$

1) A sample of 15 shoes in a locker room are measured. The sample mean is 13.4 inches, and the sample standard deviation is 1.3 inches. Find the 95% confidence interval for the mean of shoe length in locker rooms.

2) Seven teachers are surveyed, and their ages are 54, 34, 46, 62, 29, 44, and 40.

a) What is the sample mean?

b) What is the sample standard deviation?

c) Find the 90% confidence interval for the mean age of teachers.

3) 18 marathon runners were surveyed, and their mean time was 2.37 hours with a sample standard deviation of .21 hours. Find the 99% confidence interval for marathon runner times.