9.2 Worksheet 1

Significance Tests with Means

**★I can identify the mean parameter that I am interested in based on sample data★**

**★I can determine if a test is one sided or two sided★**

**★I can compute the value of the test and the p-value when conditions have been met★**

**★I can compare the p-value to α to make a decision about the null hypothesis★**

Do the following significance tests. Show ALL Steps!! (PHCTAC)

1. The mean and standard deviation of total dissolved oxygen in a stream is claimed to be 4.62 mg and 0.92 mg, respectively. An environmental group collects a liter of water from each of 45 random locations along a stream and measures the quality of dissolved oxygen in each sample. They get a mean of 4.50 mg. Is this significant evidence that the dissolved oxygen has decreased?
2. The average height of all high school students is claimed to be 65 inches with a standard deviation of 3 inches. The heights of a random sample of 40 students from a high school were collected. The average height of the sample was 67 inches. Is this significant evidence that the average height of this school is more than 65 inches?