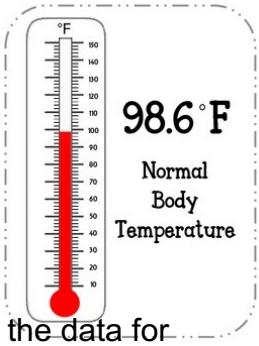
Name: _____ Hour: _____ Date: _____

Lesson 11.1: Day 2: What is normal body temperature?



For many years, doctors have told people that "normal" body temperature is 98.6 degrees Fahrenheit. Today, we will try to find out if this is true.

Take your body temperature and record it on whiteboard. Record the following for the data for the whole class (think of our class as an SRS of all high school students)

$\bar{x} =$ $s_x =$ $n =$

Do the data provide convincing evidence that the mean normal body temperature is different than the doctor's claim? Assume the conditions have been met.

State: Parameter: Statistic:

Hypotheses: α:

Plan: Name of procedure:

Do: General: Picture:

Specific:

Work: Test Statistic:

P-value:

Conclude:

Another class did the same activity with these results: $\bar{x} = 97.9$ $s_x = 1.6$ $n = 30$

1. Use T-test on the calculator to find the *P*-value =

Reject H_0 at $\alpha = 0.10$? Reject H_0 at $\alpha = 0.05$? Reject H_0 at $\alpha = 0.01$?

2. Use TInterval on the calculator to find the following confidence intervals.

90%:_____ 95%:_____ 99%:_____

Reject H_0?_____ Reject H_0?_____ Reject H_0?_____

3. What connection do you notice between your answers to #1 and #2?

Name: _____ Hour: _____ Date: _____

Lesson 11.1 Day 2– Significance Test for μ

Important ideas:

Check Your Understanding

According to the National Center for Health Statistics, the mean systolic blood pressure for males 35 to 44 years of age is 128. The health director of a large company wonders if this national average holds for the company's middle-aged male employees. So the director examines the medical records of a random sample of 72 male employees in this age group and records each of their systolic blood pressure readings.

1. State an appropriate pair of hypotheses for a significance test in this setting. Be sure to define the parameter of interest.

2. A 95% confidence interval for the mean systolic blood pressure of all 35- to 44-year-old male employees at this company is (126.43, 133.43). Based on this interval, what conclusion would you make for a test of the hypotheses in Question 1 at the $\alpha = 0.05$ significance level?