Time Frame: 50 minutes

Subject Matter:  *t* - Test TELL ME

Objective: TSWBAT test means for small samples, using the *t* test.

Standards: DA – 4.10

 Materials: PowerPoint Presentation, Calculator, and Worksheets

SHOW ME

Presentation of Information

The students will be asked to solve the following problems in pair. They are given 25 minutes to solve the problems. After the given time, the class will go over the problems.

1. A new laboratory technician read a report that the average number of students using the computer laboratory per hour was 16. To test his hypothesis, he selected a day at random and kept track of the number of students who used the lab over an 8 – hour period. The result were as follows:

20 24 18 16 16 19 21 32

At $α=0.05$, test the claim that the average is actually 16.

1. The average family size was reported as 3.18. A random sample of families in a particular school district resulted in the following family sizes:

5 4 5 4 4 3 6 4 3 3 5 6 3 3

2 7 4 5 2 2 2 3 5 2

At $α=0.05$, does the average family size differ from the national average?

1. A physician claims that joggers’ maximal volume oxygen uptake is greater than the average of all adults. A sample of 15 joggers has a mean of 40.6 milliliters per kilogram (ml/kg) and a standard deviation of 6 ml/kg. If the average of all adults is 36.7 ml/kg, is there enough evidence to support the physician’s claim at $α=0.05$?
2. An educator claims that the average salary of substitute teachers in school districts of Johnston County, North Carolina, is less than $60 per day. A random of 8 school districts is selected, and the daily salaries (in dollars) are shown. Is there enough evidence to support the educator’s claim at $α=0.10$?

 60 56 60 55 70 55 60 55