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. The average running time for current Broadway shows is 2 hours 12 minutes. A producer in another city claims that the length of time of production in his city is the same. He samples 8 shows and finds the time to be 2 hours and 5 minutes with the standard deviation of 11 minutes. Using $α=0.05$, is the producer correct?
2. The average 1 – ounce chocolate chip cookie contains 110 calories. A random sample of 15 recent different brands of 1 – ounce chocolate chip cookies resulted in the following calorie amounts. At $α=0.01$ level, is there sufficient evidence that the average calorie content is greater than 110 calories?

100 125 150 160 185 125 155 145 160 100 150 140

135 120 110

1. A student suspected the average cost of a Saturday night date was no longer $30. To test her hypothesis, she randomly selected 16 men from the dormitory and asked them how much they spend on a date last Saturday. She found that the average cost was $31.17. The standard deviation of the sample was $5.51. At $α=0.05$, is there enough evidence to support her claim?
2. From past experience, a teacher believes that the average score on a real estate exam is 75. A sample of 20 students’ exam scores is as follows:

80 68 72 73 76 81 71 71 65 50 63 71

70 70 76 75 69 70 72 74

Test the claim that the students’ average is still 75. Use $α=0.01$.