Time Frame: 50 minutes

Subject Matter: *t* Confidence Intervals for the Mean (Data)

TELL ME

Objective: TSWBAT find the *t* confidence interval for the mean (Data)

Standards: DA – 4.9

Materials: PowerPoint Presentation, Calculator, and Worksheets

SHOW ME

Presentation of Information

Using the statistics tool of the TI – 83 Calculator the teacher will discuss the following.

Let Me Try

1. A sample of 17 states had these cigarette taxes (in cents):

112 120 98 55 71 35 99 124 64

150 150 55 100 132 20 70 93

Find the 98% confidence of interval for the cigarette tax in all 50 states.

*Source: Federation of Tax Administrators.*

1. The data represent a sample of the number of home fires started by candles for the past several years. (Data are from the National Fire Protection Association) Find the 99% confidence of interval for the mean number of home fires started by candles each year.

5460 5900 6090 6310 7160 8440 9930

1. A random sample of the number of barrels (in millions) of oil produced everyday by the world oil producing countries is listed here. Estimate the mean oil production with 95% confidence of interval.

3.56 7.83 2.83 1.91 5.88 2.91 6.08

*Source: NY Times Almanac*

1. The daily salaries of substitute teachers for eight local school districts are shown. What is the point estimate for the mean? Find the 90% confidence of interval of the mean for the salaries of substitute teachers in the region.

50 56 60 55 70 55 60 55

*Source: Pittsburgh Tribune Review*

1. The number of grams of carbohydrates in a 12 – ounce serving of a regular soft drink is listed her for a random sample of sodas. Estimate the mean number of carbohydrates in all brands of soda with 95% confidence.

48 37 52 40 43 46 41 38

41 45 45 33 35 52 45 41

30 34 46 40

*Source: The Doctor’s Pocket Calorie, Fat, and Carbohydrate Counter*

1. The number of unhealthy days based on the AQI (Air Quality Index) for a random sample of metropolitan areas is shown. Construct a 90% confidence of interval based on the data.

61 12 6 40 27 38 93 5 13 40

*Source: NY Times Almanac*