Time Frame: 50 minutes

Subject Matter: Confidence Intervals TELL ME

Objective: TSWBAT find the confidence interval for the mean when the standard deviation is known or n is greater ten or equal to 30.

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.

Problem

The following data represent a sample of the assets (in millions of dollars) of 10 credit unions in southwestern Pennsylvania. Find the 90% confidence interval of the mean.

12.23

2.89

13.19

73.25

11.59

8.74

7.92

40.22

5.01

2.27

*Source: Pittsburgh Post Gazette.*

Classwork Feb. 11, 2011

1. Find the 95% confidence interval for the mean paid attendance at the Major League All – Star games. A random sample of the paid attendance is shown.

47,596 68,751 5,838

69,831 28,843 53,107

31,391 48,829 50,706

62,892 55,105 63,974

56,674 38,362 51,549

31,938 31,851 56,088

34,906 38,359 72,086

34,009 50,850 43,801

46,127 49,926 54,960

32,785 48,321 49,671

*Source: Time Almanac*

1. A random sample of the number of farms (in thousands) in various states is found below. Estimate the mean number of farms per state with 90% confidence interval.

47 95 54 33 64 4 8 57 9 80

8 90 3 49 4 44 79 80 48 16

68 7 15 21 52 6 78 109 40 50

29

*Source: N.Y. Times Almanac*

1. Find the 90% confidence interval for the mean number of local jobs for the top corporation in southwestern Pennsylvania. A sample of 40 selected corporations is shown.

7,685 3,100 725 850

11,778 7,300 3,472 540

11,370 5,400 1,570 160

9,953 3,114 2,600 2,821

6,200 3,483 8,954 8

1,000 1,650 1,200 390

1,999 400 3,473 600

1,270 873 400 713

11,960 1,195 2,290 175

887 1,703 4,236 1,400

*Source: Pittsburgh Tribune Review*

1. Find the 90% confidence interval of the population mean for the incomes of western Pennsylvania credit unions. A random sample of 50 credit unions is shown. The data are in thousands of dollars.

84 14 31 72 26 85 24 391 72 158

49 252 104 31 8 4,340 346 19 5 846

3 18 72 23 55 461 254 125 61 123

133 16 29 225 138 60 29 10 366 47

28 254 6 77 21 97 6 17 8 82

*Source: Pittsburgh Post Gazette*