Math 3 Statistics Performance Task Unit 6

Early College Analysis

Answer the following questions honestly. Do not put your name on the note card. The results will be recorded on the board. We would like to know the answers to these questions and hope to apply your results to the school population.

**Survey Questions**

1. On a scale of 1 to 10, how much school spirit does the Early College have?

**1 is lowest,**

**10 is highest**

1. On a scale of 1 to 10, how diligent are you about studying at home?
2. On a scale of 1 to 10, how prevalent is cheating at the Early College?
3. On a scale of 1 to 10, how much do you love your math teacher? ☺

Complete parts 1 through 3 **independently**. You will turn in your final analysis on **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Part 1:** Find the following for **each question** (so this means you should do this 4 times)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Mean | Median | Mode | Standard Deviation |
| Question 1 |  |  |  |  |
| Question 2 |  |  |  |  |
| Question 3 |  |  |  |  |
| Question 4 |  |  |  |  |

**Part 2: Using the data from Part 1, draw a labeled normal curve and:**

* List the total number that fall within 1, 2, and 3 standard deviations of the mean for **EACH** question.
* Find the percentage of values that fall within 1, 2, and 3 standard deviations of the mean
* Do these match the percentages for Normal Distributions (Empirical Rule)?

**Part 3: Analysis (in complete sentences/paragraph)**

* What type of sampling method did we use? Explain how this may result in a bias.
* Explain a better method for conducting this survey that would eliminate sampling bias.
* How might the questions we used about rating your like or dislike of your math teacher result in a bias?
* Does answering anonymously have an effect on the results? Explain why or why not.
* Find the percentage of data above an 8 that your fellow classmates rated the Early College’s school spirit.
* Find the margin of error and 95% confidence interval for question 3: how prevalent is cheating at the Early College? Label and show all calculations for full credit.