Engineering Virtual Learning

HS Intro to Engineering Design Lesson #8

April 15, 2020

Objective/Learning Target:

Students will use precision & accuracy in the use of measures of central tendency or statistics.

(This is day 3 of a 4 day project.)

Bell-work:

Describe the precision and accuracy of this target.

A. High Accuracy, High Precision
B. Low Accuracy, High Precision
C. High Accuracy, Low Precision
D. Low Accuracy, Low Precision

Answer: B

Learning Practice:

Find the mean, median, mode and range of the student ID measurements from yesterday (below).

Student A	Student B
65.5 mm	65.501 mm
65.4 mm	65.508 mm
65.4 mm	65.509 mm
65.3 mm	65.503 mm
65.6 mm	65.505 mm

Mean is the Average – add all numbers and divide by how many there are.

Median is the Middle – arrange data in order from largest to smallest and pick the middle number.

Mode occurs Most often – pick the one that is repeated.

Range - Highest number – Lowest number (difference of the values)

Which of these measures of central tendency is the most central? Explain why you say that.

Check For Understanding: Answer Key

Student A	Student B
65.5 mm	65.501 mm
65.4 mm	65.508 mm
65.4 mm	65.509 mm
65.3 mm	65.503 mm
65.6 mm	65.505 mm
Total: 327.2 mm	327.526 mm

Mean –
Stu A: 327.2/ 5 = 65.44 65.4
Stu B: 327.526/ 5 = 65.5052 65.505

Median –
Stu A: 65.4
Stu B: 65.505

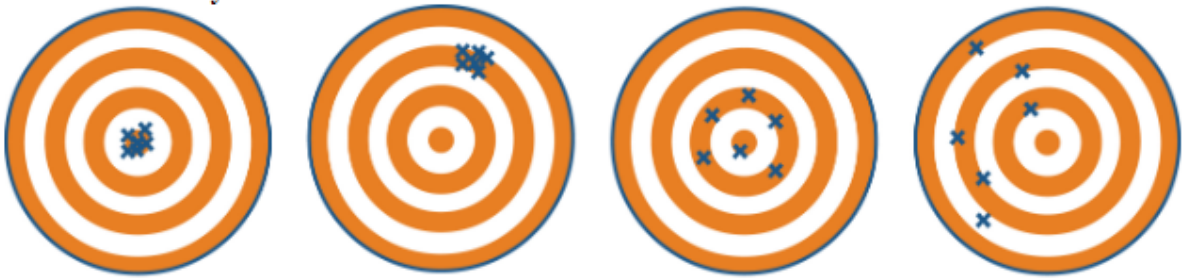
Mode –
Stu A: 65.4
Stu B: No Mode

Range –
Stu A: .3
Stu B: .008

Learning Resource Links:

Measures of central tendancy or Statistics - https://www.khanacademy.org/math/ap-statistics/summarizing-quantitative-data-ap/measuring-center-quantitative/v/statistics-intro-mean-median-and-mode

1. Precision measures how close measurements are *to each other*.
2. Accuracy measures how close a result is to the truth.



NAME	TITLE	DATE	PERIOD