

Worksheet 3

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1. You've applied to be an operations manager for Coca-Cola Consolidated. In the interview, they ask you we have two different systems of filling a can or a bottle. Which process is working better (in the sense of consistency)?
 - i. System 1: A sample of 50 12 oz bottles of Coke which are filled to a number between 11 – 13 oz. The average of this sample is 12 and the standard deviation is 0.33.
 - ii. System 2: A sample of 120 8 oz cans of Coke filled to a number between 7.3 – 8.7 oz. The average of the sample is 8 and the standard deviation is 0.23.

2. A random sample of 10 students were asked how far they live from UMBC. These were their answers, rounded to the nearest half-mile:

1, 2.5, 1.5, 2, 0, 5, 3, 3.5, 1, 0.5

- a. Compute the mean, median and mode for this.
- b. Compute the range and the sample standard deviation.
- c. Compute the coefficient of variation.

(extra space for Question 1)

3. A small sample of height (in cm) is collected as follow:

164, 148, 137, 157, 173, 156, 177, 172.

- a. Determine the location and values of the first, second and third quartiles.
- b. Calculate the IQR.
- c. Determine the location and value of the 60th percentile. What does the value signify?

4. The following data has mean income and housing for 10 cities in Florida. Values are in dollars (\$) and rounded to the nearest thousand.

City	Income (x)	Housing (y)
A	26	109
B	29	97
C	25	115
D	28	99
E	38	122
F	32	145
G	25	100
H	22	76
I	29	113
J	42	144

- Calculate the correlation coefficient between x and y . What can you conclude about the relationship between the 2 variables?
- Calculate the least square line.
- Calculate the coefficient of variation.