

Self Evaluation
Quiz
Topic 1 - Summarizing Data

1. Multiple Choice – Choose ONE.

A nominal scale is used for

- (a) All discrete data.
 - (b) Discrete data with categories that do not follow a natural sequence.
 - (c) Continuous data that do follow a natural sequence
 - (d) Discrete data with categories that do follow a natural sequence
 - (e) Quantitative data
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2. Consider the following five measurements: 1005, 1010, 1015, 1020, and 1025.

Subtract 1000 from each measurement and then divide by 5. What is the effect on the mean, variance, and standard deviation of these measurements?

3. There are 375 members of the legislature. The ages of a random sample of 50 of them are obtained. The sample mean and sample standard deviations are 53.87 years and 9.87 years, respectively. The oldest house member in the sample is 82 years old. If he is removed from the sample and replaced with a person 42 years old, what are the new values for the sample mean and sample standard deviation?
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4. True or False.

Calculation of a new standard deviation for a sample of data after removal of an extreme value produces a value that is higher than that of the old standard deviation.

5. It has been suggested that the levels of creatinine phosphokinase (CPK) are higher in men with relatively larger muscle mass. To address this question, the following CPK values were obtained for 10 healthy college age football players

94	158
196	128
42	136
89	115
149	108

These values are in International Units (IK). Calculate the sample median.

6. Consider again the sample of 10 data values in problem #5. In your opinion, are these data symmetric, positively skewed, or negatively skewed?
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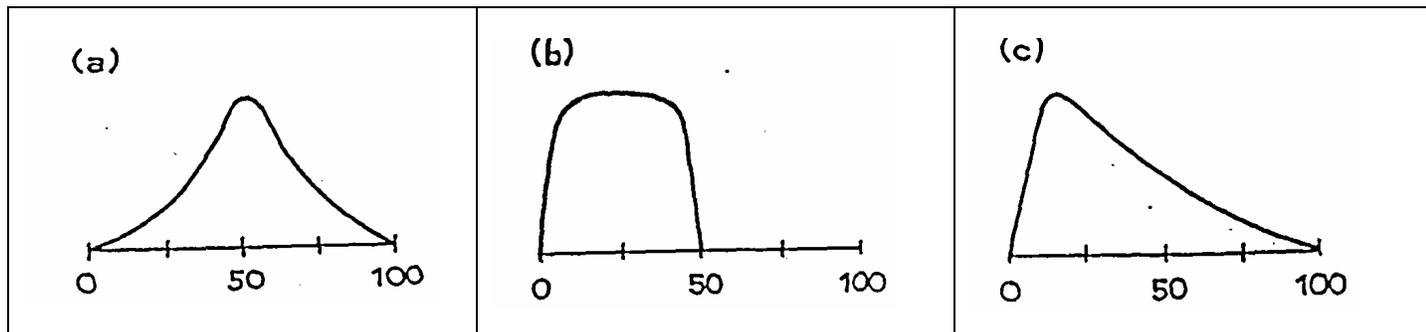
7. FILL IN THE BLANKS.

A butter machine produces sticks of butter than average 4 ounces in weight, with a population standard deviation of 0.1 ounces. There is no trend or pattern in the weights and there are 4 sticks to a box.

A box weighs _____ ounces, give or take _____ ounces.

8. A sample of 3000 tags is comprised of 1000 that are marked with a "0" and 2000 that are marked with a "1". Consider the random variable X defined as the mark on a tag. Thus, the possible values of X are 0 and 1 and you have a sample of 3000 values of X . Find the mean and standard deviation of X in this sample.
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9. The following are three histograms.



- (9.1) Is the average indicated by histogram "A" closest in value to 25, 40, 50, 60, or 75?
 (9.2) Is the average indicated by histogram "B" closest in value to 25, 40, 50, 60, or 75?
 (9.3) Is the average indicated by histogram "C" closest in value to 25, 40, 50, 60, or 75?
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10. The 49 students in the 2005 PHP Online course in Introductory Biostatistics have an average height of 5 feet 8 inches. Find the average height of the 50 individuals comprised of these 49 students plus the instructor who is 4 feet 11 inches.