

All math work needs to be shown or not accepted.

1. In a Gallup poll of 1,038 adults, 540 said that second-hand smoke is very harmful. What is the percentage of adults who said second-hand smoke is very harmful?

Show the problem:

Answer: _____

2. The first class in a relative frequency table is 50–59 and the corresponding relative frequency is 0.2. What does the 0.2 value indicate?

Answer:

3. When you add the values 3, 5, 8, 12, and 20 and then divide by the number of values, the result is 9.6. Which term best describes this value: average, mean, median, mode, or standard deviation?

Answer: _____

4. What is the range of the values 2.0, 3.7, 4.9, 5.0, 5.7, 6.7, 8.5, and 9.0?

Answer: _____

What is the median? _____

What is the mean? _____

What is the mode? _____

HOMEWORK 3

Comparing Variations:

1. For the following exercise, complete the following:
 - a. Find the mean, median, and range for each of the two data sets.

 - b. Find the standard deviation using the rule of thumb for each of the data sets.

 - c. Compare the two sets and describe what you discover.

The following data sets shows the ages of the first seven presidents (President Washington through President Jackson) and the seven most recent presidents including President Obama. Age is given at time of inauguration.

First 7: 57 61 57 57 58 57 61

Second 7: 61 52 69 64 46 54 47

2. A data set consists of a set of numerical values. Which, if any, of the following statements could be correct?
 - a. There is no mode.
 - b. There are two modes.
 - c. There are three modes.

3. Indicate whether the given statement could apply to a data set consisting of 1,000 values that are all different.
 - a. The 29th percentile is greater than the 30th percentile.
 - b. The median is greater than the first quartile.
 - c. The third quartile is greater than the first quartile.
 - d. The mean is equal to the median.
 - e. The range is zero.

Homework 4

1. Which of the following statements are correct?
 - a. A normal distribution is any distribution that is not unusual.
 - b. The graph of a normal distribution is bell-shaped.
 - c. If a population has a normal distribution, the mean and the median are not equal.
 - d. The graph of a normal distribution is symmetric.

Using the 68-95-99.7 rule:

Assume that a set of test scores is normally distributed with a mean of 100 and a standard deviation of 20. Use the 68-95-99.7 rule to find the following quantities:

Suggest you make a drawing and label first...

- a. Percentage of scores less than 100
 - b. Relative frequency of scores less than 120
 - c. Percentage of scores less than 140
 - d. Percentage of scores less than 80
 - e. Relative frequency of scores less than 60
 - f. Percentage of scores greater than 120

2. Assume the body temperatures of healthy adults are normally distributed with a mean of 98.20 °F and a standard deviation of 0.62 °F (based on data from the University of Maryland researchers).
 - a. If you have a body temperature of 99.00 °F, what is your percentile score?
 - b. Convert 99.00 °F to a standard score (or a z-score).

- c. Is a body temperature of 99.00°F *unusual*? Why or why not?
- d. Fifty adults are randomly selected. What is the likelihood that the mean of their body temperatures is 97.98°F or lower?
- e. A person's body temperature is found to be 101.00°F . Is the result *unusual*? Why or why not? What should you conclude?
- f. What body temperature is the 95th percentile?
- g. What body temperature is the 5th percentile?
- h. Bellevue Hospital in New York City uses 100.6°F as the lowest temperature considered to indicate a fever. What percentage of normal and healthy adults would be considered to have a fever? Does this percentage suggest that a cutoff of 100.6°F is appropriate?