

2.9: Key Terms

Frequency

the number of times a value of the data occurs

Frequency Table

a data representation in which grouped data is displayed along with the corresponding frequencies

Histogram

a graphical representation in x-y form of the distribution of data in a data set; x represents the data and y represents the frequency, or relative frequency. The graph consists of contiguous rectangles.

Interquartile Range

or *IQR*, is the range of the middle 50 percent of the data values; the *IQR* is found by subtracting the first quartile from the third quartile.

Interval

also called a class interval; an interval represents a range of data and is used when displaying large data sets

Mean (arithmetic)

a number that measures the central tendency of the data; a common name for mean is 'average.' The term 'mean' is a shortened form of 'arithmetic mean.' By definition, the mean for a sample (denoted by \bar{x}) is

$$\bar{x} = \frac{\text{Sum of all values in the sample}}{\text{Number of values in the sample}}, \text{ and the mean for a population (denoted by } \mu \text{) is}$$
$$\mu = \frac{\text{Sum of all values in the population}}{\text{Number of values in the population}}.$$

Mean (geometric)

a measure of central tendency that provides a measure of average geometric growth over multiple time periods.

Median

a number that separates ordered data into halves; half the values are the same number or smaller than the median and half the values are the same number or larger than the median. The median may or may not be part of the data.

Midpoint

the mean of an interval in a frequency table

Mode

the value that appears most frequently in a set of data

Outlier

an observation that does not fit the rest of the data

Percentile

a number that divides ordered data into hundredths; percentiles may or may not be part of the data. The median of the data is the second quartile and the 50th percentile. The first and third quartiles are the 25th and the 75th percentiles, respectively.

Quartiles

the numbers that separate the data into quarters; quartiles may or may not be part of the data. The second quartile is the median of the data.

Relative Frequency

the ratio of the number of times a value of the data occurs in the set of all outcomes to the number of all outcomes

Standard Deviation

a number that is equal to the square root of the variance and measures how far data values are from their mean; notation: s for sample standard deviation and σ for population standard deviation.

Variance

mean of the squared deviations from the mean, or the square of the standard deviation; for a set of data, a deviation can be represented as $x - \bar{x}$ where x is a value of the data and \bar{x} is the sample mean. The sample variance is equal to the sum of the squares of the deviations divided by the difference of the sample size and one.

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