Lesson 1 Mean Median Mode

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Lesson 1 Mean, Median & Mode

Mean, median and mode are measures of central tendency or values that represent the centre of a set of data.

Mean: the average of the values in a set of data

$$\text{Mean} = \frac{\text{sum of all values}}{\text{\# of values}}$$

Median: the value that is in the middle of a set of data that is arranged in order from least to greatest.

1.) arrange data from least to greatest
2.) if odd number of values, find the middle value
3.) if even number of values, take the average of two middle values

Mode: the value(s) that occurs most frequently in a set of data
If all values appear an equal number of times, there is no mode.

Range: how far apart the data is spread
(highest value subtract the lowest value)

Example 1

Determine the mean, median, and mode of the following set of test scores.

76, 56, 82, 45, 90, 0, 27, 68, 87, 95, 68, 100, 79, 64, 72 ← 15 numbers

Mean = sum of all values / 15

= 1009 / 15

= 67.3

Median
arrange least to greatest

0, 27, 45, 56, 64, 68, 68, 72, 76, 79, 82, 87, 90, 95, 100

median 72

Mode - most frequent
68

Range 100 − 0
100

Example 2

Determine the mean, median, mode and range of the following set of ages of players on an adult recreational soccer team.

31, 25, 27, 30, 19, 28, 21, 33, 36, 23

Mean $= \frac{273}{10}$

$= 27.3$

27 years

Median

19, 21, 23, 25, 27, 28, 30, 31, 33, 36

two middle numbers

27.5

$\frac{(27+28)}{2}$

Mode

no mode

Range $36 - 19$

17

If a player who is 21 joins the team, calculate the new mean, median and mode.

Mean

$\frac{273+21}{11}$

$\frac{294}{11}$

26.7

or 27 years

Median

19, 21, 21, 23, 25, 27, 28, 30, 31, 33, 36

median 27

Mode

21