VITAL MATHEMATICS

STATISTICS
MEAN

STEVIE CARPENTER

INTRODUCTION

The mean is the average value of all data values. Also known as arithmetic mean. The mean is calculated by adding all data values, then dividing the total of all added data values by the total number of data values.

MEAN EQUATION

$$\overline{x} = \frac{\Sigma x}{n}$$

$\overline{x}\ (x - bar) - Sample\ mean$
$\Sigma\ (Sigma) - Summation$
$x - Data\ value$
$n - Sample\ size$

$$\mu = \frac{\Sigma x}{N}$$

$\mu(mu) - Population\ mean$
$N - Population\ size$

SOLVING MEAN

$$\overline{x} = \frac{\Sigma x}{n} \qquad \mu = \frac{\Sigma x}{N}$$

STEP 1) Add all data values (x)

STEP 2) Identify sample size (n) or population size (N)

STEP 3) Divide STEP 1 by STEP 2

Example: $\frac{STEP\ 1}{STEP\ 2}$

STEP 4) Round Answer

STEP 5) Provide conclusion

MEAN EXAMPLE

Example 1: Find the mean speed of the following cars below:

0mph, 25mph, 70mph, 40mph, 40mph, 63 mph, 89mph, 126mph

Example 2) Find the mean age of the following people listed below:

17yrs, 25yrs, 19yrs, 36yrs, 55yrs, 22yrs, 45yrs, 11yrs, 47yrs

Concepts Concerning the Mean

Measure of Center
The mean is within the category of measuring the center of a set of data. The other two being the mode and median, most notably used. The mean is not a good measure of center because the mean does not focus entirely on the center, but on the center data value. The mean could be a value that is nowhere near the center.

Outliers
An outlier within the data does changes the mean drastically.

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BY

STEVIE CARPENTER

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