AVERAGES FROM A LIST AND REVERSE MEAN

Statistics

Key Concepts

There are three types of **average** that we use to analyse and compare data. We can calculate averages from a **discrete** data set.

Mode The most common value that appears in the list.

Median Once ordered, the middle value.

Mean $\frac{Total\ of\ all\ data}{Number\ of\ pieces\ of\ data}$

The **range** is used to analyse the **spread** of a data set or how **consistent** the data is.

Range

$largest\ data\ value - smallest\ data\ value$

Examples

Here is a discrete data set, calculate the mean, mode, median and range for this data.

2 5 3 9 7 7

Mode: 7

Median: 2 3 5 7 7 9 $\quad \frac{5+7}{2} = 6$

Mean: $\frac{2+3+5+7+7+9}{6} = 5.5$

Range: 9 – 2 = 7

Reverse mean

A hockey team scored the following number of goals in 6 games:

2 3 4 1 0 1

The mean of the goals scored in seven games was 2. How many goals were scored in the seventh game?

$$\frac{2+3+4+1+0+1+x}{7} = 2 \longrightarrow \frac{11+x}{7} = 2 \longrightarrow x = 3$$

MathsWatch

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Key Words

Discrete
Data
Mean
Mode
Median
Range
Spread

1) Calculate the mean, mode, median and range for the following list of data: 5 8 4 2 8 6

2) The points scored in a test by 5 students are 32, 38, 21, 25, 29. Another students test score is included. If the mean of these 6 scores is now 27, what did the 6th student score?

ANSWERS: 1) mode = 8, median = 5.5, mean = 5.5, range = 6 2) 17