Averages

Definitions

Median   The numerical value that separates the top half of a set of figures from the bottom half. Of course, if there is an even number of figures, then there will be no middle number, so in this case the median value is calculated as the mean average of the two middle numbers.

Mean   The sum of the values listed divided by the number of values.

Mode   The numerical value that appears most often. Of course, for any set of numbers there can be more than one mode: two figures can appear the same number of times. And, by the same token, if no number occurs more than once in the set, then there is no mode for that set of numbers.

1. A teacher and exam results

You are a teacher and your students produced the following set of exam results. What are the mean, median and mode averages? Once you have calculated the three averages, consider what would be the most useful average for you as a teacher.

92%, 87, 86, 85, 84, 84, 82, 81, 81, 81, 81, 79, 76, 72,

70, 70, 70, 68, 65, 62, 59, 55, 53, 47, 43, 38, 26, 20, 14

Answer

Mean: 65.9%

Median: 70%

Mode: 81%

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2. Sales manager

You are a sales manager for a chain of small supermarkets. At the AGM of the company you must present the figures for the growth in sales of each of the 20 supermarkets. Obviously you will have to interpret these figures by calculating the average growth, but which average would be most useful? Calculate all three averages and decide which you will use.

Supermarkets	Annual increase in sales (in £)
Austin	13,436
Amersham	14,712
Bristone	21,727
Dowton	4,612
Eaglesham	14,228
Fenersham	27,873
Gawstone	13,871
Havering	4,743
Jepson	15,312
Loughton	13,927
Munsford	14,841
Nonnerton	14,141
Pinemouth	3,597
Rowston	15,768
Silvering	13,781
Stonebridge	23,541
Teynham	15,211
Tonville	15,213
Waterman	15,523
Withershall	16,154

Answer

Mean: £14,610.55

Median: £14,776.50

Mode: There is no mode.