The 'best' average

1. Jez and Akram are backpacking in Argentina and have recorded these daily temperatures for a week.

Day	1	2	3	4	5	6	7
Midday Temperature ($^{\circ}$C)	32	30	30	28	33	31	30

    a) Find the mean, mode, and median midday temperatures.
    b) Give a reason why the mean could be a representative average for this data.

2. The following are the salaries of 5 employees in a small business:

    Mr A: £22,500
    Mr B: £17,900
    Mr C: £21,400
    Mr D: £22,500
    Mr E: £85,300

    (a) Find the mean, median, and mode of their salaries.
    (b) Which does not give a 'fair' average? Explain why.

3. A buyer for a high street store has to order 200 pairs of black trousers for year 10 students. You have carried out a survey on the sizes of trousers 10 students wear:

    Waist sizes: 24, 22, 24, 28, 34, 32, 22, 24, 30, 34

(a) Work out the mean, median, and mode of the sizes.
(b) Advise the buyer on the average size of trousers to order.

4. Batsman A and Batsman B play 5 games of cricket. They score the following amount of runs:

    A: 34, 121, 6, 56, 72
    B: 60, 54, 52, 73, 44

(a) Work out the mean and median of the batsmen's scores.
(b) In the sixth game the captain can play only one of the batsmen. Advise the captain on whether to pick batsman A or batsman B.

5. A sample of 20 fish was taken from a pond and their lengths were noted to the nearest centimetre (each fish was put back in the pond before the next one was taken out). The lengths are listed in centimetres below:

    12, 14, 15, 12, 18, 15, 11, 19, 16, 14, 15, 17, 10, 19, 18, 15, 14, 17, 19, and 13

Decide which average is the best to use. Give a reason for your choice.