

Worksheet 4.8D

Higher Variance and standard deviation

Student Book section 4.10

1. Twelve people were asked how many brothers and sisters they have.

2 1 1 2 0 1 0 3 2 0 1 5

- Find the mean of these data.
 - Calculate the variance of these data.
 - Find the standard deviation of the number of brothers and sisters of the people asked.
2. The weights of ten members of a gymnastics club were taken and the following summary values found.

$$\sum x = 604 \qquad \sum x^2 = 36870$$

- Find the mean weight of the gymnasts.
 - Find the standard deviation of the weights.
3. The table shows the number of flowers found on 60 specimens of a certain house plant.

Flowers	1	2	3	4	5	6	7	8
Number of plants	1	0	3	9	12	23	9	3

- Find the mean number of flowers on a plant.
 - Find the standard deviation.
4. The prices of the 28 cars for sale in a local garage one weekend are summarised in the table.

Price, x (£)	Number of cars
$500 \leq x < 1000$	3
$1000 \leq x < 2000$	4
$2000 \leq x < 4000$	6
$4000 \leq x < 6000$	8
$6000 \leq x < 8000$	5
$8000 \leq x < 10000$	2

- Find an estimate for the total value of the cars for sale.
- Work out an estimate for the mean price of the cars.
- Find an estimate of the standard deviation of the car prices.
- Why are these answers only estimates?