

8. Two data sets, A and B , are listed below.

$A = \{11, 14, 17, 20, 23, 26, 29\}$ and $B = \{2, 9, 15, 20, 27, 31, 36\}$

- Show that the mean of the two data sets are the same.
- By inspection, which data set is expected to have a higher standard deviation? Explain your answer.
- Verify your answer in (b) by calculating the standard deviation for each of the two data sets.

9. The heights (in cm) of a group of 8 boys and a group of 8 girls in a class are given as follows.

Heights of boys (cm)	152	154	153	160	155	148	162	164
Heights of girls (cm)	144	153	147	161	149	150	165	147

- Find the mean and the standard deviation of the heights of
 - the group of boys,
 - the group of girls.
 - On average, which group is taller?
 - In which group is there greater variation in heights?
10. Students are required to spell 10 words in each spelling test. The following table shows the number of mistakes made by a class of 30 students in two spelling tests.

Number of mistakes made	0	1	2	3	4	5	6
Frequency from first spelling test	2	4	5	6	4	6	3
Frequency from second spelling test	5	7	3	6	3	4	2

- Find the mean and the standard deviation of the number of mistakes made in
 - the first spelling test,
 - the second spelling test.
- On average, in which test was the performance of the class better?

Further Practice

11. The volumes (in cm^3) of water in 10 cups are listed below.

240	251	253	257	254
249	255	241	242	248

- Find the mean of the data.
 - Find the standard deviation of the data.
 - A cup of water is selected at random. Find the probability of selecting a cup whose volume is within one standard deviation from the mean.
12. The sum of the ages of 4 siblings is 57 and the sum of the squares of their ages is 883.
- Find the mean age of the siblings.
 - Calculate the standard deviation of the ages of the siblings.