Comparing Statistics (Mean and Standard Deviation)

1. The following table shows the mean and standard deviation for the time, in seconds, each person ran 50 metres on multiple ocassions.

Data Set	Mean	Standard Deviation
Benjamin	8.6	2.3
Catriona	9.8	1.9
Hannah	7.5	5.1
Anthony	6.3	4.2
Arran	9.3	4.5
Joesph	10.5	7.3
Iona	8.9	5.3
Christopher	10.7	4.1

Write two valid statements comparing the time taken to run 50 metres for:

a) Benjamin and Catriona

b) Hannah and Anthony

c) Arran and Joesph

d) Iona and Christopher

e) Catriona and Christopher

f) Benjamin and Hannah

2. Doctors are trialling new medicine to help people stop smoking.

Before they took part in new treat the mean number of cigarettes smoked was 25 cigarettes a day. The data before the trial had a standard deviation of 4.8 cigarettes.

After they took part in new treat the mean number of cigarettes smoked was 10 cigarettes a day. The data after the trial had a standard deciation of 5.7 cigarettes.

Write two valid comments comparing the number of cigarettes smoked per day from before the trial and after the trial.

3. Kirsty and Robyn are training for a half marathon. They noted their last ten runs each and completed some statistical analysis.

In her last 10 runs, Kirsty had a mean running time of 1 hour 40 minutes and the standard deviation was 12.8 minutes.

Her cousin Robyn recorded a mean running time of 2 hours 13 minutes and a standard deviation of 9.1 minutes.

Write two valid statements comparing the running times of Kirsty and Robyn.