ANALYSIS OF DATA

1 The following data set represents the marks obtained on a test, out of 66, by a class of 21 students.

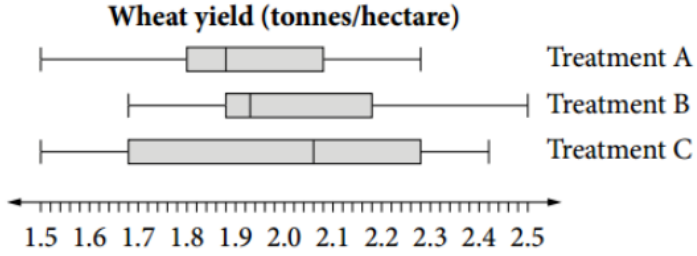
60, 51, 47, 42, 53, 34, 47, 39, 56, 63, 35, 34, 50, 35, 41, 19, 48, 42, 37, 45, 29

(a) Is it reasonable to assume the data set represents a sample or a population?

(b) Find the mean, standard deviation, minimum value, Q_1, median, Q_3, and maximum value. Round to 1 decimal place, where necessary.

(c) Describe the data set by choosing the appropriate words for the following sentences:
The data set [**does / does not**] contain outliers and is [**positively skewed / negatively skewed / symmetrical**].
[**25 / 50 / 75**]% of the data set was above 42 and no more than [**25 / 50 / 75**]% was below 35. The [**lowest / median / highest**] student scored a mark of 63 out of 66.

2 The parallel box plots below compare the yield per hectare of wheat for paddocks treated in various ways.



Which of the following statements is incorrect?

A The interquartile range for treatment A is the smallest.
B The highest yielding paddock has been given treatment B.
C About 50% of the paddocks for treatment B had a yield less than 2.2 tonnes/hectare.
D About 25% of the paddocks for treatment B had a yield between 1.875 and 1.925 tonnes/hectare.
E Treatment A produced the most consistent results.

4 The following table shows the average batting performances (the number of runs scored) by the Waugh twins, Steve and Mark, in cricket Test matches against other Test-playing nations. The figures cover the entire careers of both players. Draw a composite bar graph and use it to assist you in deciding who was the better batsman.

	England	India	New Zealand	Pakistan	South Africa	Sri Lanka	West Indies	Zimbabwe	Total Career
Steve	58.18	41.92	38.52	34.59	49.87	87.63	49.82	145	51.06
Mark	50.09	33.24	42.56	42.41	42.04	24.64	41.29	90	41.82

5 The bar graph below shows the number of people killed in traffic accidents in Australia in the years 2011 and 2012, by state and territory. Compare the data in terms of the two years.