

# YEAR 11 - Univariate Data Revision

## Homework Sheet 3

To be completed on loose-leaf  
papers

- Q1 At the end of 1987 the top ten money grossing films in Australia were as shown in the table:

Film	Gross takings (\$ millions)
Crocodile Dundee	19.8
E.T.	11.4
Man from Snowy River	7.8
Star Wars	6.4
Ghostbusters	5.8
Grease	5.3
Raiders of the Lost Ark	4.9
Jaws	4.8
Return of the Jedi	4.5
Back to the Future	4.5

- a. Find the mean of the takings for the top ten films.  
b. Find the median

- Q2 Thirty-one people were asked to write down the number of siblings (brothers and sisters) they have, with the following results:

Number of siblings:	0	1	2	3	4	5
Number of people:	4	15	7	2	2	1

- a. Calculate the mean number of siblings.  
b. Find the median  
c. Find the mode
- Q3. A researcher recorded the age, to the nearest year, of every woman giving birth to a child in a particular hospital in one year:

Age group	Class frequency
15-19	149
20-24	675
25-29	1370
30-34	1029
35-39	347
40-44	54
45-49	2
Total	3626

- (i) Calculate the mean and median ages. (ii) What is the modal class

- Q4. Calculate the standard deviation of the following data set:

13 12 14 6 15 12 7 6 7 8

- Q5 a. Draw a boxplot to show the number of hours spent on a project by individual students in a particular school: (list the 5 summary points)

24 4 166 147 97 90 36 92 226 37 111  
59 102 13 108 2 71 102 147 56 181 35  
9 3 48 27 264 86 9 40 146 19 76

- b. Describe the distribution.

Q6. Consider the marks, for two different tasks, awarded to a group of students:

Task A:

2	6	9	10	11	12	13	22	23	24	26
26	27	33	34	35	38	38	39	42	46	47
47	52	52	56	56	59	91	94			

Task B:

11	16	19	21	23	28	31	31	33	38	41
49	52	53	54	56	59	63	65	68	71	72
73	75	78	78	78	86	88	91			

- Display the data using a back-to-back stem-and-leaf plot.
- Derive a five-number summary for both tasks.
- Draw parallel boxplots of the data.
- Make comparisons between the two sets of data. Use statistics in your answer.

Q7. The results of a student's chemistry experiment are as follows:

7.3 8.3 5.9 7.4 6.2 7.4 5.8 6.0

- Find the mean and the median of the results.
- Find the interquartile range and the standard deviation of the results.