

Exercises Sheet 2

1. For the following sets of data, find to one decimal place

- i) The mean
- ii) The median, and
- iii) The mode

a) 2, 1, 2, 3, 1, 3, 0, 2, 4, 2, 2

b) 2.4, 3.9, 1.8, 1.7, 4.0, 2.1, 3.9, 1.5, 3.9, 2.6

c) 153.8, 154.7, 156.9, 154.3, 152.3, 156.1, 152.3

2. For the following sets of data, find

- i) The mean
- ii) The median
- iii) The mode
- iv) Briefly describe the positions of the mean, median and mode and their relation to one another for each data set.

a) **Table 1.**

x	f
-2	3
-1	7
0	8
1	5
2	4

b) **Table 2.**

x	f
6.3	2
6.4	1
6.5	6
6.6	5
6.7	13
6.8	4

c) **Table 3.**

x	f
1	15
2	5
3	3
4	1
5	2

3. Imagine that the annual population increases over a 10 year period are given in the table below:

Table 6. Population increase

Year	Increase from previous
1	53,377
2	52,170
3	67,000
4	90,332
5	72,681
6	65,226
7	76,777
8	83,657
9	77,753
10	82,892

- a) Calculate the mean annual population increase over a 10 year period.
 b) Calculate the median annual population increase over a 10 year period.
 c) Do you think the difference between these two measures is significant?
 Give reasons for your answer, and explain which result gives a better indication of the data's centre.
 d) For what purposes would one use measures such as these?

4. Forty students took a math test marked out of 10 points. Their results were as follows:

9, 10, 7, 8, 9, 6, 5, 9, 4, 7, 1, 7, 2, 7, 8, 5, 4, 3, 10, 7, 3, 7, 8, 6, 9, 7, 4, 2, 3, 9, 4, 3, 7, 5, 5, 2, 7, 9, 7, 1

- a) Prepare a frequency table of the scores.
 b) Using the frequency table, calculate the mean, median and mode.
 c) Interpret these results.

5. Imagine that the number of unemployed people is given in the table below

Table 7. Unemployment

Age group	No. Unemployed
15-19	3,688
20-24	4,031
25-34	5,432
35-44	4,360
45-54	3,162
55-64	1,702

- a) Find the midpoint of each interval. Calculate the average age of an unemployed person using the midpoint.
- b) In what age group does the median lie?
- c) Briefly discuss the comparison of these three results.
- d) Why do you think the number of unemployed people decreases after the age group 25-34?
- d) How might social welfare organizations use these figures?

7. A random survey of 100 married men gave the following distribution of hours spent per week doing unpaid household work:

Table 8. Hours spent per week doing unpaid household work

Hours	No. of men
0 -< 5	1
5 -< 10	18
10 -< 15	24
15 -< 20	25
20 -< 25	18
25 -< 30	12
30 -< 35	1
35 -< 40	1

- a) Find the endpoint (upper value) for each interval and figure out the cumulative frequency.
- b) Draw the ogive (or distribution curve) with the cumulative frequency on the y axis.
- c) From the curve, find an approximate median value. What does this value indicate?
- d) Calculate the mean. What does this value indicate?
- e) Briefly describe the comparison between the mean, median and mode values.
- f) How would you find out whether women spent more hours doing unpaid household work per week than men?