6.3 Homework : Mean, Median, Mode

GCSE Mathematics
Statistics

Question 1
A researcher is investigating how old a group of alcoholics were when they first started to 'significantly' drink. The researcher tabulates her findings as follows:

Age	Frequency	
8	1	
9	2	
10	2	
11	6	
12	7	
13	4	
14	3	
15	1	
16	1	

(a) Write out all the data as a list.
The list starts like this...

8 9 9 10 10 11 11 11 11 11

11 12 12 12 12 12 12 12 13 13

13 13

(b) Work out the mean to one decimal place.

(c) Work out the median.

(d) Write down the mode.

Question 2

Six sweet pea seeds were planted in each of fifty plant pots.
After a few weeks the number of seedlings in each pot was counted and the results are given in the following table.

Number of seedlings	1	2	3	4	5	6
Frequency	4	2	8	7	20	9

Showing your working, calculate the mean number of seedlings that have germinated per plant pot.

Question 3

Twenty children were asked how they rated their English teacher.
Here are the results:

***	**	**	****	*	***	**	****
****	***	**	**	*****	***	***	*****
***	**	***	***				

Number of stars	*	**	***	****	*****
Frequency					

(a) Fill in the frequency row of the table.

(b) Showing your working, calculate the average (mean) star rating of the English teacher.

Question 4

Find the mean, median, mode(s) of the following sets of numbers

SET A

10 8 2 10 12 8 6

SET B

3 6 2 5 9 2 4

SET C

10 8 10 16 7 9 10 8 9

SET D

13 16 12 14 19 12 14 13

SET E

4 3 4 5 2 5 4 3

Question 5

GCSE Examination Question from May 2007, Paper 4H Q13

Here are the marks scored in a maths test by the students in two classes.

Class A	2	13	15	16	4	6	19	10
	11	4	5	15	4	16	6	
Class B	12	11	2	5	19	14	6	6
	10	14	9					

(a) Work out the interquartile range of the marks for each class.

Class A _____

Class B _____

[4 marks]

(b) Use your answers to give one comparison between the marks of Class A and the marks of Class B.

[1 mark]

Question 6

The following table shows the number of letters that come through my letter box on twenty-five consecutive days.

Number of letters	0	1	2	3	4	5
Number of days	6	7	6	4	1	1

What is the median number of letters through my letter box per day ?

Question 7

GCSE Examination Question from June 2011, Paper 4H Q7.

Six numbers have a mean of 5.

Five of the numbers are

3 2 7 6 2

The other number is x.

Work out the value of x.

[3 marks]

Question 8

GCSE Examination Question from May 2006, Paper 4H Q7.

(a) Four numbers have a mean of 6.
Three of the numbers are 3, 7 and 10
Find the other number.

[2 marks]

(b) Three numbers have a mode of 5 and a mean of 6.
Find the three numbers.

[2 marks]

(c) Find four numbers which have a mode of 7 and a median of 6

[2 marks]

Question 9

GCSE Examination Question from November 2010, Paper 3H Q9

(a) Three positive whole numbers are all different.
They have a median of 5 and a mean of 4
Find the three numbers

[2 marks]

(b) Find four whole numbers which have a mode of 5 and
a median of 6.

[2 marks]

Question 10

The time taken to travel to Liverpool from Shrewsbury of six different occasions were as follows

1 hr 20 min	1 hr 30 min	1 hr 45 min
2 hr 10 min	1 hr 15 min	2 hr 00 min

(a) Rewrite this data with all of the times converted into minutes.

(b) Using your converted data, calculate the mean (average) time
of a journey in minutes.

(c) Convert your part (b) answer to give the mean time in hours and minutes.