The Maths Society

Mean
Median
Mode
Range

Day	Visitors
1	275
2	352
3	501
4	444
5	513

1 The table shows information about the number of points scored in a game.

Points	Frequency	
0	9	0
1	11	11
2	18	36
3	7	21
4	4	16
5	1	5
	50	89

Work out the mean number of points per game.

$$\text{mean} = \frac{89}{50} = 1.78$$

1.78

(Total for question 1 is 3 marks)

2 The table shows information about the number of goals scored in a game by a football team.

Points	Frequency	
0	10	0
1	12	12
2	x	$2x$
3	7	21
4 or more	0	0
		$33+2x$

The team scored a total of 55 goals.
Find the value of x.

$$33 + 2x = 55$$
$$2x = 22$$
$$x = 11$$

11

(Total for question 2 is 3 marks)

3 The table shows information about the number of goals a team scored in 38 games.

Points	Frequency	
0	7	0
1	14	14
2	11	22
3	6	18
4 or more	0	0

(a) Find the median number of goals scored.

1

(1)

(b) Write down the mode

1

(1)

(c) Work out the total number of goals the team scored in all 38 games.

54

(2)

4 Adam is measuring the heights in cm of his tomato plants.

Height (cm)		Frequency	
$140 < h \leqslant 150$	145	7	1015
$150 < h \leqslant 160$	155	10	1550
$160 < h \leqslant 170$	165	15	2475
$170 < h \leqslant 180$	175	19	3325
$180 < h \leqslant 200$	190	9	1710
			10075

(a) Estimate the mean height.
Give your answer correct to 1 decimal place.

$\frac{10075}{60}$

167.9 cm

(3)

(b) Explain why your answer to part (a) is an estimate.

Height are given in range and so we have to assume the data by taking the mid value.

5 Michael recorded the maximum temperature every day in September.

The table shows information about his results.

Temperature (°C)	Frequency	
$14 < t \leqslant 18$	16	4
$18 < t \leqslant 20$	19	10
$20 < t \leqslant 22$	21	8
$22 < t \leqslant 24$	23	5
$24 < t \leqslant 28$	26	3

64
190
168
115
78
615

Calculate an estimate for the mean maximum temperature.

$\frac{615}{30}$

20.5 °C

6 The frequency table shows the time taken for 100 people to travel to an event.

Time (minutes)	Frequency	
$0 < t \leqslant 10$	5	14
$10 < t \leqslant 20$	15	16
$20 < t \leqslant 30$	25	23
$30 < t \leqslant 40$	35	29
$40 < t \leqslant 50$	45	12
$50 < t \leqslant 60$	55	6

70
240
575
1015
540
330

(a) Find the percentage of people that travelled for more than 30 minutes to the event

47 %

(1)

(b) Find the class interval that contains the median.

$20 < t \leqslant 30$ minutes

(1)

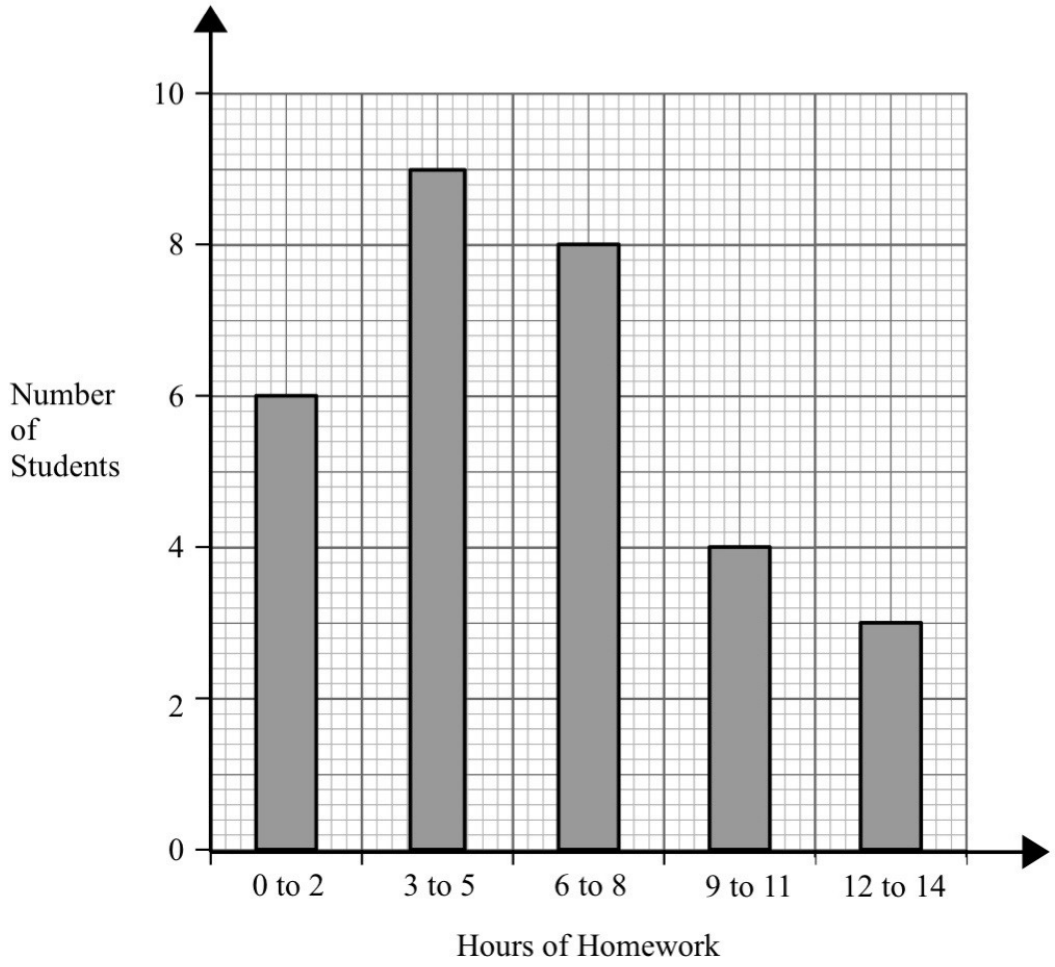
(c) Find an estimate for the mean time taken for people to travel to the event.

$\frac{2770}{100}$

27.7 minutes

(3)

7 The bar chart shows how many hours of homework 30 students did last week.



Calculate an estimate for the mean number of hours of homework.

1×6 → 6
4×9 → 36
7×8 → 56
10×4 → 40
13×3 → 39
177

mean = $\frac{177}{30}$ = 5.9

..... hours

(Total for question 8 is 3 marks)