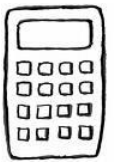
Name:	Teacher Assessment



Section A Statistics From Raw Data Grade G → E

1. The number of aircraft landing at an airport each hour is shown below.

2 3 8 5 6 10 4 9 4 11 4

(a) Find the median of these numbers.

.....

.....

Answer .....

(2)

(b) Write down the mode of these numbers.

Answer .....

(1)

(c) Work out the range of these numbers.

.....

Answer .....

(1)

(d) Calculate the mean of these numbers.

.....

.....

.....

Answer .....

(3)

(Total 7 marks)

2. Twelve adults were asked how many keys were on their key-ring.
Their replies were

8 6 4 9 4 7 6 3 4 6 4 2

(a) Work out the median number of keys.

.....

.....

Answer ……

(2)

(b) Write down the mode.

Answer ……

(1)(Total 3 marks)

3. The number of points scored by the Tigers in the last 10 rugby matches is listed.

38 16 18 76 32 16 16 40 60 42

(a) Calculate the range of these scores.

…….

Answer …….. points

(1)

(b) (i) Write down the mode of these scores.

……...

Answer …….. points

(1)

(ii) In the next match the Tigers score 25 points. What effect does this have on the mode? Tick the correct box.

Decrease ☐ No change ☐ Increase ☐

(1)(Total 3 marks)

4. A park-keeper records how many joggers he sees in the park each day for seven days. His results are

6 8 9 0 3 7 2

(a) Calculate the median number of joggers in the park.

.....

.....

Answer .....

(2)

(b) Explain why there is no mode for this data.

.....

.....

(1)

(c) The council claim that the mean number of joggers in the park is 10 per day.

Do the park-keeper's results support this claim? Explain your reasoning.

.....

.....

.....

(2)
(Total 5 marks)

5. The sizes of shoes sold in a shoe shop one lunchtime are shown below.

6 5 7 9 7 6 11 7 9 9 9 8 10

(a) What was the median shoe size sold?

……

Answer ……

(2)

(b) Write down the mode.

Answer ……

(1)

(c) Which average would be more useful to the shopkeeper when buying more stock? Tick a box. Give a reason for your answer.

☐ Median ☐ Mode

……

……

……

(1)

(Total 4 marks)

6. The Quickpass driving school records the number of lessons that each person had before passing their driving test.
The results for seven men are shown.

10 17 15 10 12 8 19

(a) Work out the range of these numbers.

.....

Answer ……

(1)

(b) Calculate the mean of these numbers.

.....

.....

.....

Answer ……

(3)

(c) The number of driving lessons taken by a sample of women is summarised in the table.

Women

Range	14
Mean	9

Write down **two** comparisons between the number of driving lessons taken by the men and the women.

Comparison 1 .....

.....

Comparison 2 …….

.....

(2)(Total 6 marks)

7. A company puts this advert in the local paper. The following people work for the company.

Job	**Wage per week (£)**
Apprentice	200
Cleaner	200
Foreman	350
Manager	800
Mechanic	250
Parts Manager	520
Sales Manager	620

AQA Motor Company

Mechanic needed
Average wage over £400 per week

(a) What is the mode of these wages?

Answer £ ..... **(1)**

(b) What is the median wage?

.....

Answer £ ..... **(2)**

(c) Calculate the mean wage.

.....

.....

Answer £ ..... **(3)**

(d) Explain why the advert is misleading.

.....

.....

(1) (Total 7 marks)

8. (a) Adam and Betty take a mental arithmetic test each week for seven weeks.
Adam's test scores are 9, 6, 8, 9, 9, 7, 8.

(i) What is the mode of Adam's scores?

Answer .....

(1)

(ii) What is the median of Adam's scores?

.....

.....

Answer .....

(2)

(b) Betty's test scores are

3 6 7 8 8 4 6

Complete this table.

	Range	**Mean**
Adam	3	8
Betty	5	

.....

.....

.....

.....

(3)

(c) Use the range and mean to compare their test scores.

.....

.....

.....

(2)
(Total 8 marks)

9. Alia has a pack of numbered cards.
Each card is numbered with a single digit 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.
Alia selects the following three cards from the pack.

(a) Alia says the numbers on her cards have a median of 5 and a range of 6.

Explain why Alia is correct.

.....

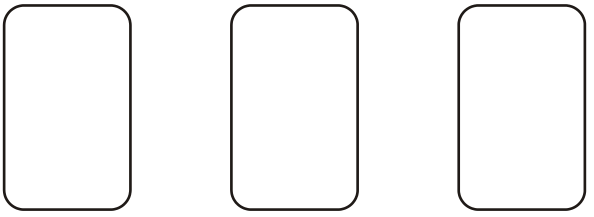
.....

.....

(2)

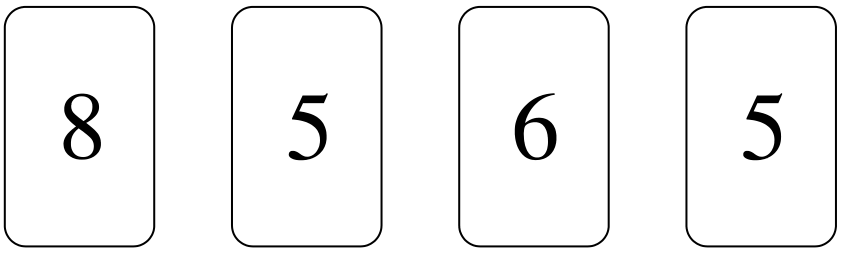
(b) Write one number onto each of the three cards below so that the median is 4 and the range is 7.

.....



(2)
(Total 4 marks)

10. Here are four cards.



James says that the mean of the numbers on the cards is higher than the mode.

Show that James is correct.

.....

.....

.....

.....

(Total 3 marks)

11. The table summarises the test scores for a group of ten boys.

Mean score	7.6
Range	6

In the same test ten girls had the following scores.

3 8 6 2 9 10 8 7 9 8

Compare the mean and the range of the boys' scores with the girls' scores.

.....

.....

.....

.....

.....

.....

.....

(Total 3 marks)

Success:	Target:

Section B Statistics From Tables Grade E → C

1. A survey was taken to find out the number of children who live in each house on a small estate. The results are shown in the table.

Number of children	Number of houses
0	3
1	12
2	21
3	24
4	8
5	2

(a) How many houses in total were in the survey?

.....

Answer .....

(1)

(b) Calculate the total number of children who live on this estate.

.....

.....

.....

.....

Answer .....

(2)

(c) Calculate the mean number of children per house.

.....

.....

.....

.....

Answer .....

(2)

(Total 5 marks)

2. The number of eggs in 90 nests is shown in the table.

Number of eggs per nest	Frequency
0	10
1	16
2	35
3	15
4	14

Calculate the mean number of eggs per nest.

.....

.....

.....

.....

.....

Answer .....

(Total 3 marks)

3. Phil counts the number of people in 50 cars that enter a car park.

His results are shown in the table.

Number of people	Frequency
1	25
2	17
3	6
4	2
more than 4	0

Calculate the mean number of people per car.

.....

.....

.....

Answer .....

(Total 3 marks)

4. Chloe records the number of goals scored by her favourite football team in each of 40 matches.

Number of goals	Frequency
0	7
1	15
2	13
3	2
4	2
5	1

(a) Write down the mode of the number of goals scored.

Answer .....

(1)

(b) Calculate the mean number of goals scored per match.

.....

.....

Answer .....

(3)(Total 4 marks)

5. A quiz has five questions.
The table shows the number of correct answers given by the people who took the quiz.

Number of correct answers	Number of people
0	6
1	10
2	13
3	21
4	49
5	1

(a) Calculate the mean number of correct answers. You **must** show your working.

…….

…….

…….

……...….

Answer ……

(3)

(b) A mark of 4 is given for every correct answer.
A mark of –1 is given for every blank or incorrect answer.

Find the mean mark.

…….

…….

Answer ……

(2)
(Total 5 marks)

6. Jane records the times taken by 30 pupils to complete a number puzzle.

Time, *t* (minutes)	**Number of pupils**
$2 < t \leq 4$	3
$4 < t \leq 6$	6
$6 < t \leq 8$	7
$8 < t \leq 10$	8
$10 < t \leq 12$	5
$12 < t \leq 14$	1

(a) Calculate an estimate of the mean time taken to complete the puzzle.

.....

.....

Answer ..... minutes

(4)

(b) Which time interval contains the median time taken to complete the puzzle?

.....

Answer .....

(1)(Total 5 marks)

7. The table shows the length of some cinema films.

Length, *l* (minutes)	**Number of films**
$80 < l \leq 100$	10
$100 < l \leq 120$	3
$120 < l \leq 140$	6
$140 < l \leq 160$	1

(a) Calculate an estimate of the mean length of these 20 films.

.....

.....

Answer ..... minutes

(4)

A film of length 145 minutes is added to the data above.

(b) Which class interval contains the median length of these 21 films?

.....

Answer .....

(2)(Total 6 marks)

8. A police officer records the speeds of 60 cars on a dual carriageway.

Speed (mph)	Frequency	Midpoint	
40 to less than 50	9		
50 to less than 60	27		
60 to less than 70	21		
70 to less than 80	3		

(a) Write down the modal class.

Answer ..... mph

(1)

(b) Use the class midpoints to calculate an estimate of the mean speed of these cars.

.....

.....

.....

Answer ..... mph

(3)

(Total 4 marks)

9. The table shows the heights of 30 students in a class.

Height, h, (cm)	Number of students
$140 < h \leq 144$	4
$144 < h \leq 148$	5
$148 < h \leq 152$	8
$152 < h \leq 156$	7
$156 < h \leq 160$	5
$160 < h \leq 164$	1

By using the midpoints of each group, calculate an estimate for the mean height of the students.

……

……

……

Answer …….. cm

(Total 3 marks)

10. The table shows the heights of some children.

Height, *h*(cm)	**Frequency**
$60 < h \leq 80$	6
$80 < h \leq 100$	8
$100 < h \leq 120$	10
$120 < h \leq 140$	3

(a) Which class interval contains the median height?

.....

.....

Answer ..... < *h* ≤ .....

(2)

(b) Only children over 100 cm in height are allowed on a ride at a funfair.
Estimate how many of a group of 70 children would be allowed to use this ride.

.....

.....

Answer .....

(3)
(Total 5 marks)

Success:	Target: