Edexcel GCSE
Mathematics (Linear) – 1MA0

STEM & LEAF DIAGRAMS

Materials required for examination	**Items included with question papers**
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser. Tracing paper may be used.	Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
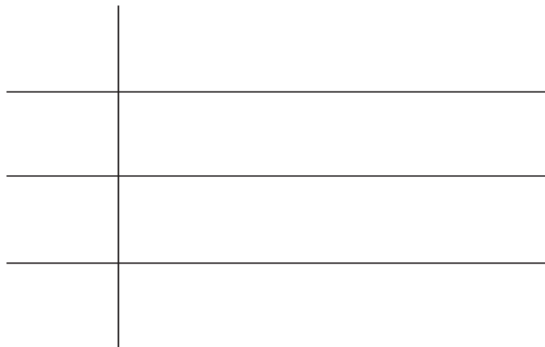Check your answers if you have time at the end.

1. 3. Here are the ages, in years, of 15 students.

19   18   20   25   37

33   21   17   29   20

42   18   23   37   22

Show this information in an ordered stem and leaf diagram.

Key:

(3 marks)

_____

2. Jo measured the times in seconds it took 18 students to run 400 m.
Here are the times.

67	78	79	98	96	103
75	85	94	92	61	80
82	86	90	95	90	89

(a) Draw an ordered stem and leaf diagram to show this information.
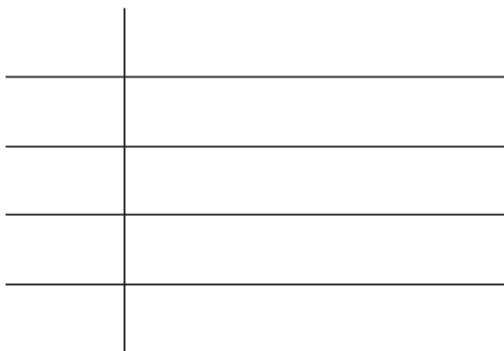
Key:

(3)

(b) Work out the median.

.... seconds

(2)

(5 marks)

3. Here are the speeds, in miles per hour, of 16 cars.

    31   52   43   49   36   35   33   29

    54   43   44   46   42   39   55   48

Draw an ordered stem and leaf diagram for these speeds.

(4 marks)

_____

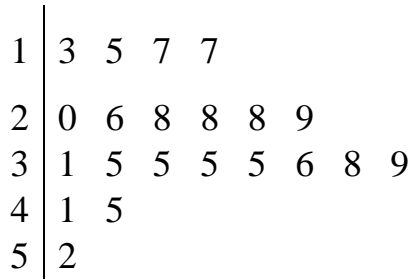**4.** Here are some people's ages in years.

    62   27   33   44   47

    30   22   63   67   54

    69   56   63   50   25

    31   63   42   48   51

In the space below, draw an ordered stem and leaf diagram to show these ages.

(4 marks)

5. Jim did a survey on the lengths of caterpillars he found on a field trip.
Information about the lengths is given in the stem and leaf diagram.

```
1 | 3 5 7 7
2 | 0 6 8 8 8 9
3 | 1 5 5 5 5 6 8 9
4 | 1 5
5 | 2
```

Key: 5|2 means 5.2 cm

Work out the median.

.... cm

(2 marks)

_____

6. Here are the times, in minutes, taken to solve a puzzle.

   5   10   15   12   8   7   20   35   24   15

   20   33   15   24   10   8   10   20   16   10

(a) In the space below, draw a stem and leaf diagram to show these times.

(3)

(b) Find the median time to solve this puzzle.

……………………………. mins

(2)

(5marks)

7. Jan measures the heights, in millimetres, of 20 plants in her greenhouse.
Here are her results.

178	189	147	147	166
167	153	171	164	158
189	166	165	155	152
147	158	148	151	172

Complete the stem and leaf diagram to show this information.

Stem	Leaf

_____**(4 marks)**

8. Anil counted the number of letters in each of 30 sentences in a newspaper.

Anil showed his results in a stem and leaf diagram.

```
0 | 8 8 9
1 | 1 2 3 4 4 8 9
2 | 0 3 5 5 7 7 8
3 | 2 2 3 3 6 6 8 8
4 | 1 2 3 3 5
```

Key 4 |1   stands for 41 letters

(a) Write down the number of sentences with 36 letters.   ....
(1)

 (b) Work out the range.   ....
(1)

(c) Work out the median.

....
(2)
(4 marks)

9. Here are the weights, in kilograms, of 15 parcels.

$$1.1 \quad 1.7 \quad 2.0 \quad 1.0 \quad 1.1 \quad 0.5 \quad 3.3 \quad 2.0$$

$$1.5 \quad 2.6 \quad 3.5 \quad 2.1 \quad 0.7 \quad 1.2 \quad 0.6$$

Draw a stem and leaf diagram to show this information.

(Total 3 marks)

10. Janine recorded the times, in seconds, for each of 15 people to do a puzzle.
Here are her results.

90   81   78   83   68

75   79   81   69   87

76   91   67   73   81

(a)   Complete the ordered stem and leaf diagram and key to show these results.

6	
7	
8	
9	

Key

(3)

Janine says "To find the median time, you add all the results and divide by 15"

Janine is **wrong**.

(b)   (i)   Explain how to find the median.

....

....

....

....

....

(ii)   Find the median.

.... s

(2)
(Total 5 marks)

11. Here are the ages, in years, of 15 teachers.

    35 52   42   27   36

    23 31   41   50   34

    44 28   45   45   53

(a) Draw an ordered stem and leaf diagram to show this information.
     You must include a key.

Key:

(3)

One of these teachers is picked at random.

(b) Work out the probability that this teacher is more than 40 years old.

....

(2)
(Total 5 marks)