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

19 18 20 23 31

33 21 17 29 20

42 18 23 31 22

Show this information in an ordered stem and leaf diagram.

1	7 8 8 9
2	0 0 1 2 3 5 9
3	3 7 7
4	2

Key: 1|7 = 17 years

(3 marks)

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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.

6	1 7
7	5 8 9
8	0 2 5 6 9
9	0 0 2 4 5 6 8
10	3

Key:
6|1 = 61 seconds

(3)

(b) Work out the median.

$$\frac{86 + 89}{2} = 87.5$$

............87.5............ 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.

2	9
3	1 3 5 6 9
4	2 3 3 4 6 8 9
5	2 4 5

KEY

2|9 = 29 mph

(4 marks)

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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.

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

KEY

2|2 = 22 years

(4 marks)

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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
```
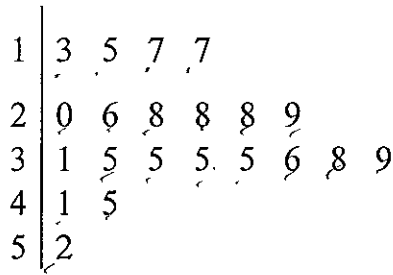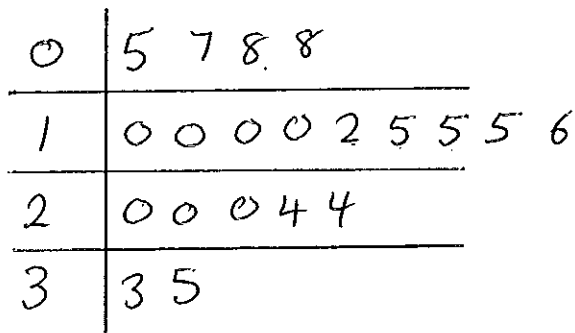
Key: 5|2 means 5.2 cm

Work out the median.

............3.1............ cm

(2 marks)

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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.

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

Key: 0|5 = 5 minutes

(3)

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

............15............ mins

(2)

(5marks)

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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
14	7 7 7 8
15	1 2 3 5 8 8
16	4 5 6 6 7
17	1 2 8
18	9 9

key

14|7 = 147 mm

_____ **(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. ....2...............

(1)

(b) Work out the range.   45 − 8   ....37............

(1)

(c) Work out the median.

...........27...............

(2)
(4 marks)

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

1.1 1.7 2.0 1.0 1.1 0.5 3.3 2.0

1.5 2.6 3.5 2.1 0.7 1.2 0.6

Draw a stem and leaf diagram to show this information.

```
0 | 5 6 7
1 | 0 1 1 2 5 7
2 | 0 0 1 6
3 | 3 5
```

key

0|5 = 0.5 kg

(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
7	3 5 6 8 9
8	1 1 1 3 7
9	0 1

Key

6 | 7 = 67 seconds

(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.

The Median is the middle number.
You need to cross off the first 7 and
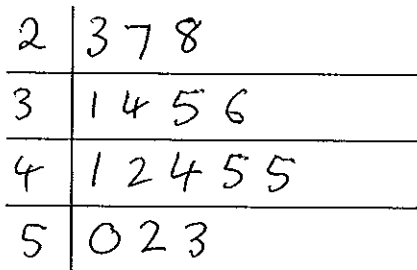the last 7. This will leave the middle
number.

(ii) Find the median.

............79............ 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.

2	3 7 8
3	1 4 5 6
4	1 2 4 5 5
5	0 2 3

Key:

2|3 = 23 years

(3)

One of these teachers is picked at random.

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

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....

(2)
(Total 5 marks)