

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

~~19~~ 18 ~~20~~ ~~25~~ ~~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)

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~~ ~~58~~ ~~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  
 $2|9 = 29 \text{ mph}$

(4 marks)

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

~~62~~ ~~21~~ ~~33~~ ~~44~~ ~~47~~  
~~30~~ ~~22~~ ~~63~~ ~~57~~ ~~54~~  
~~69~~ ~~56~~ ~~68~~ ~~50~~ ~~25~~  
~~31~~ ~~63~~ ~~42~~ ~~48~~ ~~51~~

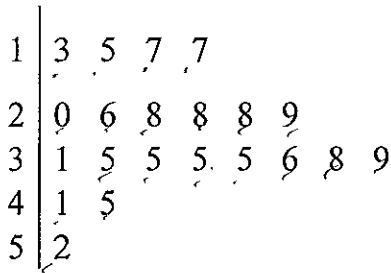
In the space below, draw an ordered stem and leaf diagram to show these ages.

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  
 $2|2 = 22 \text{ years}$

(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.



Key: 5|2 means 5.2 cm

Work out the median.

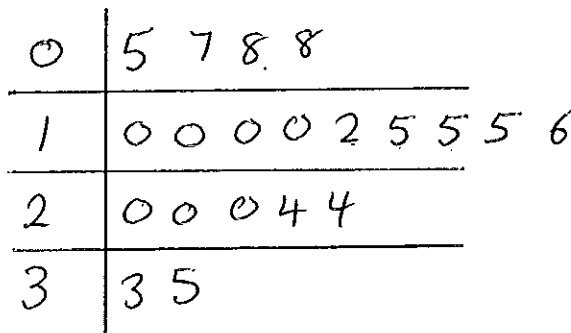
.....3.1..... cm

(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.



key: 0|5 = 5 minutes

(3)

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

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

(2)

(5 marks)

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

<del>178</del>	<del>189</del>	<del>147</del>	<del>147</del>	<del>166</del>
<del>167</del>	<del>153</del>	<del>171</del>	<del>164</del>	<del>158</del>
<del>189</del>	<del>166</del>	<del>165</del>	<del>155</del>	<del>152</del>
<del>147</del>	<del>158</del>	<del>148</del>	<del>151</del>	<del>172</del>

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  
 $0|5 = 0.5 \text{ kg}$

(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.

~~25~~ ~~52~~ ~~42~~ ~~21~~ ~~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:

$$2/3 = 23 \text{ years}$$

(3)

One of these teachers is picked at random.

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

$$\frac{8}{15}$$

.....

(2)

(Total 5 marks)