

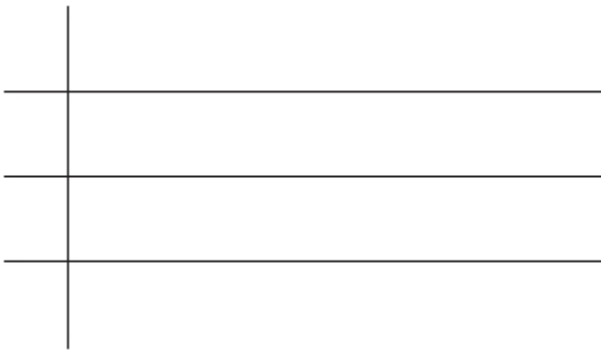
S053 Stem-and-leaf diagrams

Q1.

Chloe recorded the test marks of 20 students.

22 29 38 16 36 18 30 21 27 43
14 41 25 38 46 19 48 34 23 46

(a) Show this information in an ordered stem and leaf diagram.



(3)

One of these students is going to be chosen at random.

(b) Find the probability that this student has a test mark less than 28

.....
(2)

(Total for question = 5 marks)

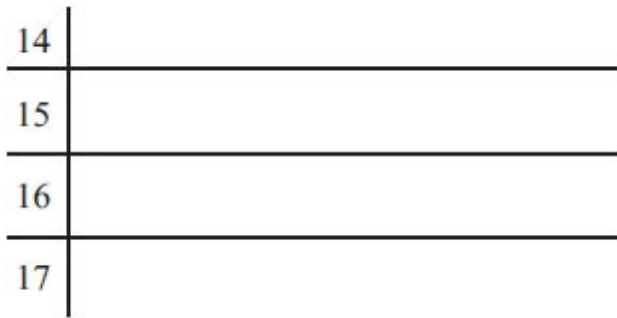
Q2.

There are 25 students in a class.
12 of the students are girls.

Here are the heights, in cm, of the 12 girls.

160 173 148 154 152 164 179 164 162 174 168 170

(a) Show this information in an ordered stem and leaf diagram.



(3)

There are 13 boys in the class.

Here are the heights, in cm, of the 13 boys.

157 159 162 166 168 169 170 173 174 176 176 181 184

* (b) Compare the heights of the boys with the heights of the girls.

(3)

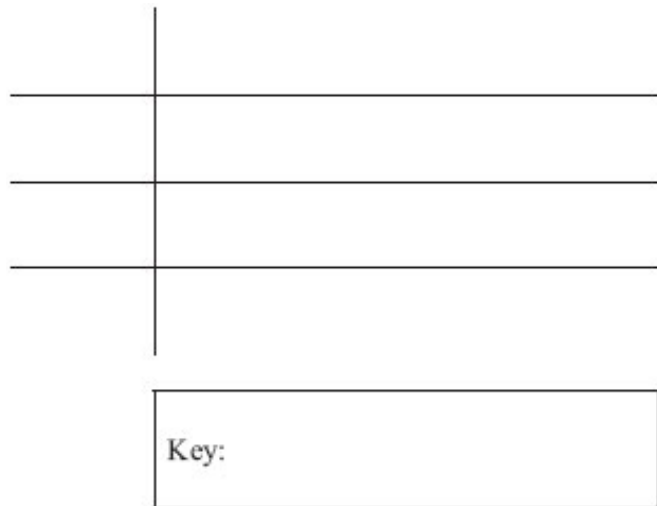
(Total for Question is 6 marks)

Q3.

Here are the heights, in cm, of 20 sunflower plants.

73 84 78 96 98 84 101 93 71 104
81 92 95 103 100 96 87 91 88 96

(a) Draw an ordered stem and leaf diagram for these heights.



(3)

(b) Work out the range.

..... cm
(1)

(c) Find the median height.

..... cm
(1)

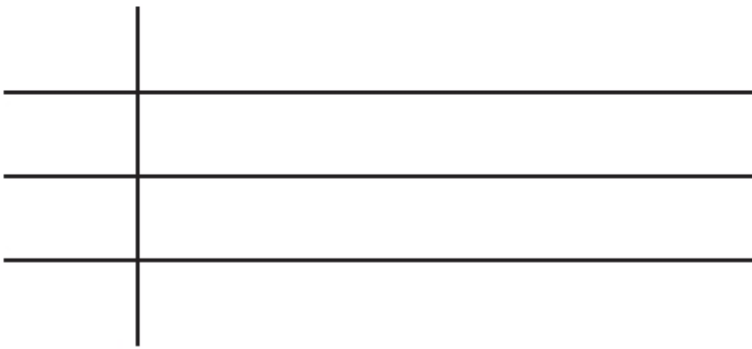
(Total for Question is 5 marks)

Q4.

Here are the heights, in centimetres, of 15 children.

123	147	135	150	147
129	148	149	125	137
133	138	133	130	151

(a) Show this information in a stem and leaf diagram.



(3)

One of the children is chosen at random.

(b) What is the probability that this child has a height greater than 140 cm?

.....
(2)

(Total for question is 5 marks)

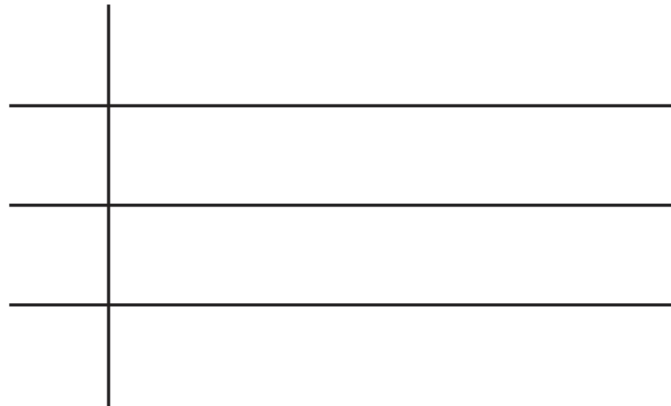
Q5.

Stephen plays in a basketball team.

The list shows the numbers of points Stephen scored in 15 games of basketball this year.

26 14 33 8 21 18 20 9 17 22 21 18 22 30 25

(a) Show this information in an ordered stem and leaf diagram.



(3)

Last year the ratio of the number of games Stephen's team won to the number of games Stephen's team did **not** win was 5 : 4

Last year Stephen's team played 36 games.

(b) Work out the number of games Stephen's team won last year.

.....

(2)

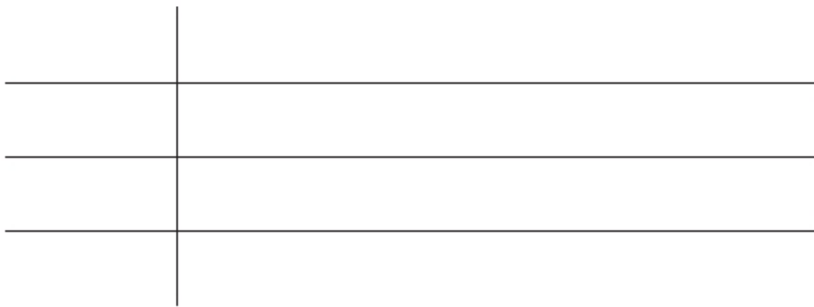
(Total for question = 5 marks)

Q6.

Here are the heights, in cm, of 18 children.

98 90 84 102 115 91
88 91 108 110 97 93
90 89 103 95 92 106

Show this information in an ordered stem and leaf diagram.



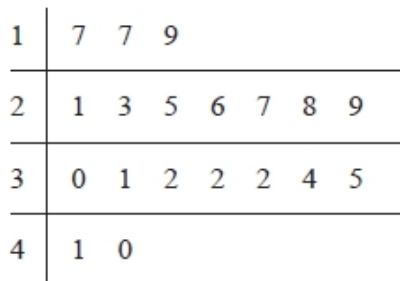
(Total for Question is 3 marks)

Q7.

Here are the ages, in years, of 20 footballers.

17 32 25 41 23 26 29 29 32 30
21 17 40 35 34 28 32 19 27 31

Wayne drew this stem and leaf diagram to show this information.



Key: 1|7 represents 17 footballers

Write down two things that are wrong with the stem and leaf diagram.

- 1
- 2

(Total for question = 2 marks)

Q8.

The stem and leaf diagram shows information about the heights, in cm, of the boys in a class.

14	0	2	9			
15	1	1	3	5	7	
16	2	4	5	7	8	9
17	6	6	7	9		
18	0	0	1			

Key: 15 1 represents 151 cm

(a) Find the median height.

..... cm
(1)

The girls in the class have a median height of 162 cm.
Their heights have a range of 45 cm.

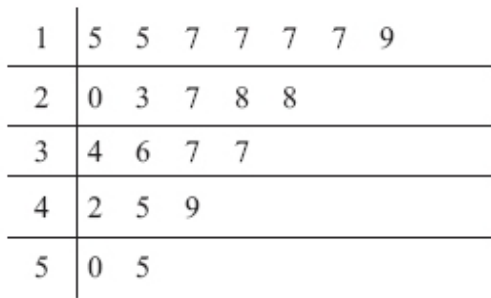
(b) Compare the distribution of the heights of the boys with the distribution of the heights of the girls.

(2)

(Total for question = 3 marks)

Q9.

Yan recorded the ages, in years, of a sample of people at a fairground.
He drew this stem and leaf diagram for his results.



Key:
1|5 represents 15 years of age

(a) Write down the number of people in the sample.

.....
(1)

(b) Write down the mode.

.....years
(1)

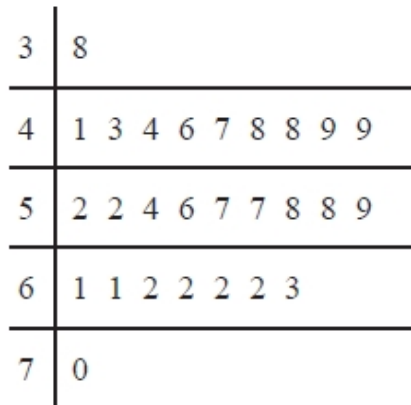
(c) Work out the range.

.....years
(2)

(Total for Question is 4 marks)

Q10.

The stem and leaf diagram gives information about the speeds of 27 cars.



Key:
3 | 8 means 38 miles per hour

(a) Find the median speed.

..... miles per hour
(1)

(b) Work out the range.

..... miles per hour
(1)

One of the cars is chosen at random.

Jack says,

"The probability that the speed of this car is more than 60 miles per hour is $\frac{1}{3}$ "

(c) Jack is wrong.
Explain why.

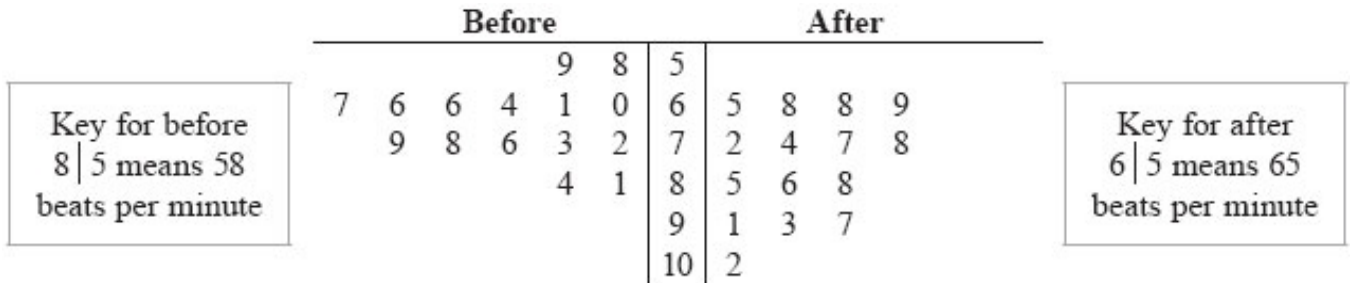
.....
.....

(2)

(Total for question = 4 marks)

Q11.

* Zoe recorded the heart rates, in beats per minute, of each of 15 people. Zoe then asked the 15 people to walk up some stairs. She recorded their heart rates again. She showed her results in a back-to-back stem and leaf diagram.

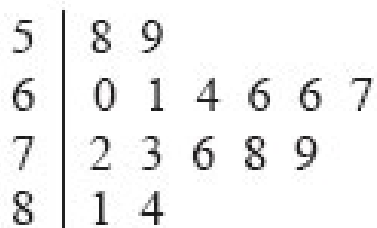


Compare the heart rates of the people before they walked up the stairs with their heart rates after they walked up the stairs.

(Total for Question is 6 marks)

Q12.

Zoe recorded the heart rate of each of 15 people.
She showed her results in a stem and leaf diagram.



Key:
5 | 8 means 58 beats per minute

(a) Find the median heart rate.

..... beats per minute

(1)

(b) Work out the range of the heart rates.

..... beats per minute

(2)

Zoe then asked the 15 people to walk up some stairs.
Zoe recorded the heart rates again.

She used the results to work out the median and the range.

Median	78
Range	37

(c) Compare the heart rates of the people before they walked up the stairs with their heart rates after they walked up the stairs.

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.....

.....

.....

(2)

(Total for Question is 5 marks)