

1MA1 Foundation themed papers: Statistical diagrams: Stem and Leaf

Write your name here			
Surname	Other names		
Centre Number		Candidate Number	
Pearson Edexcel Level 1/Level 2 GCSE (9–1)			
Mathematics			
Statistical diagrams: Stem and Leaf			
			Paper Reference 1MA1
You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.			Total Marks

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.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is **18**. There are **6** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

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.

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1 The stem and leaf diagram below gives information about the ages of people in a social club.

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

Key: 4|2 represents 42 years

Find the range of these ages.

.....years

(Total for Question 1 is 2 marks)

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2 Here are the speeds, in kilometres per hour, of 15 cyclists.

16 22 34 18 24

22 33 28 19 41

23 25 31 40 23

Show this information in a stem and leaf diagram.

(Total for Question 2 is 3 marks)

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3 Here are the marks 20 students got in a French test.

76 82 84 69 80 64 70 81 75 91
87 67 80 70 94 76 81 69 71 77

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



(3)

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

The pass mark in the French test is 71.

Omar writes,

The probability that this student failed the French test is $\frac{1}{4}$

Omar is wrong.

(b) Explain why.

.....
.....

(2)

(Total for Question 3 is 5 marks)

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4 The stem and leaf diagram gives information about the heights of 25 students.

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

Key: 14 5 represents 145 cm

(a) Find the median height.

..... cm
(1)

Chloe says that more than 30% of the 25 students have a height greater than 170 cm.

(b) Is Chloe correct?
You must show how you get your answer.

(2)

(Total for Question 4 is 3 marks)

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5 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 5 is 3 marks)

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6 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.

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

Key: 1|7 represents 17 footballers

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

1

2

(Total for Question 6 is 2 marks)

TOTAL FOR PAPER IS 18 MARKS