

Comparing Distributions

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **21**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** A factory has two machines, P and Q , that fill bags of flour.
Five bags from each machine are weighed. Here are their masses, in grams.

Machine P	502	498	500	501	499
Machine Q	507	493	500	510	490

- (a) Work out the mean and the range of the masses for each machine.
Write your answers in the table.

	Mean (grams)	Range (grams)
Machine P		
Machine Q		

(4)

- (b) The manager wants the bags to be as close to 500 g as possible.
Which machine should the manager use? Give a reason for your answer.

(1)

(Total for Question 1 is 5 marks)

- 2** Jo grows two types of plant, *A* and *B*.
For type *A*, the median height is 48 cm and the range is 22 cm.
For type *B*, the median height is 41 cm and the range is 9 cm.
Compare the distributions of the heights of the two types of plants.

(2)

(Total for Question 2 is 2 marks)

- 3** Two classes sat the same test.
Rob says, "*Class A did better because their highest mark was higher.*"
Is Rob right?
Give a reason for your answer.

(1)

(Total for Question 3 is 1 mark)

4 Here are the numbers of emails received by 9 office workers one day.

12 15 14 11 16 13 58 15 14

(a) Find the median.

.....
(1)

(b) Work out the mean.

.....
(2)

(c) Which average, the median or the mean, better represents the number of emails received by these workers?
Give a reason for your answer.

.....
.....
(1)

(Total for Question 4 is 4 marks)

- 5 The stem and leaf diagram shows the numbers of press-ups done in one minute by 13 Year 10 students.

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

Key: 1|5 represents 15 press-ups

Here are the numbers of press-ups done in one minute by 9 Year 7 students.

22 14 19 27 16 21 12 25 18

Compare the distribution of the numbers of press-ups done by the Year 10 students with the distribution of the numbers of press-ups done by the Year 7 students.

(4)

(Total for Question 5 is 4 marks)

- 6** The table shows information about the number of pets owned by each of the 30 students in Class 10A.

Number of pets	Frequency
0	6
1	11
2	7
3	4
4	2

- (a) Work out the mean number of pets for Class 10A.

.....
(3)

- (b) For Class 10B, the mean number of pets is 1.8 and the range is 3
Compare the numbers of pets owned by the students in Class 10A with the numbers owned by the students in Class 10B.

(2)

(Total for Question 6 is 5 marks)