

Key to Five

Unit 6: Averages

The PiXL Ladder to Success



- Exam style question- Does my answer seem reasonable?
- Averages from grouped frequency
- Averages from a frequency table
- Basic averages from small lists

© The PiXL Club Limited 2017 - This resource is strictly for the use of member schools for as long as they remain members of The PiXL Club. It may not be copied, sold nor transferred to a third party or used by the school after membership ceases. Until such time it may be freely used within the member school. All opinions and contributions are those of the authors. The contents of this resource are not connected with nor endorsed by any other company, organisation or institution.

Section A

Question 1

Kobe Bryant score the following number of points in 10 games.

15	22	32	33	29	22	36	X	15	23
----	----	----	----	----	----	----	----------	----	----

- (a) The mean of Kobe Bryant's scores is 23.4 points per game. What is the missing score, x. (3)
- (b) Kobe has a bad eleventh game and only scores only 2 points. What is his new average score per game. (2)

Total for question – 5 marks

Question 2

The mean of three numbers is 4 and the mode is 5. What could the three numbers be?

..... (2)

Total for question – 2 marks

Question 3

Write a list of 5 numbers which has a mode of 4 and a range of 12?

(3)
Total for question – 3 marks

Question 4

Arsenal scored the following number of goals in 10 matches.

1	0	0	0	2	x	3	3	4	0
---	---	---	---	---	---	---	---	---	---

(a) The mean of Arsenal scores is 1.7 goals per match. What is the missing score, x.

(b) Arsenal have a streak of 3 matches scoring the same in each match. The mean increases to 2.0. How many goals were scored in each of the three matches.

(3)

(2)

Total for question – 5 marks

Question 5

The mean of four numbers is 8.75, the mode is 9, the median is 9 and the range is 13. What are the four numbers?

(4)

Total for question – 4 marks

Section B

Question 6.

A shoe shop keeper keeps a list of all the shoe sizes sold in a day.

6 7 8 6 7 8 6 11 9 10

(b) Which average will be most useful for the shop keeper.

.....
(1)

(b) Explain your answer.

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

Total for question – 2 marks

Question 7.

A pupil keeps a record of his class' favourite colour and records it in the table:

Colour	Frequency
Red	4
Yellow	10
Green	7
Blue	3
Black	4
Other	2

(a) Write down which average you can find for this data.

.....
(1)

(b) Write down what this average will be.

.....
(1)

(c) Explain your answer.

(1)

Total for question – 3 marks

Question 8.

The table of data below shows 2 year 8 class results from its first maths test.

8X4	67	45	44	52	70	81	71	61	52	48
-----	----	----	----	----	----	----	----	----	----	----

8Y4	77	84	64	62	59	69	72	71	62	66
-----	----	----	----	----	----	----	----	----	----	----

(a) What statistic would you use to compare the consistency of the scores in each class.

.....
(1)

(b) What statistic could be used to say which class did better

(1)

(c) Another pupil took the test late in 8X4 and scores 18, will this have a significant impact on the following (delete where appropriate)

Mode	Yes/ No
Median	Yes/ No
Mean	Yes/ No
Range	Yes/ No
Inter Quartile Range	Yes/ No

(3)

Total for question – 5 marks

Question9

Mikey counted the number of people in 100 cars as they entered a car park.
The frequency table gives some information about the number of people in each car.

Number of People in Car	Frequency
1	26
2	17
3	13
4	18
5	9
6	10
7	7

(a) What is the modal number of people in a car for this data set. (1)

(b) Work out the mean number of people in a car. (4)

(c) Work out the range for the number of people in a car (1)

(d) Dan also counted the number of people in 100 cars as they entered a different car park. The mean number of people in a car was 2.3 The range of the number of people in a car was 5 Compare the distribution of the cars in Mikey and Dan’s surveys.

(4)

Section C

Question 10

Using the table below, find an estimate for the mean of these heights of students. Use the extra columns to help you.

Height (cm)	Frequency		
$140 < h \leq 150$	3		
$150 < h \leq 160$	9		
$160 < h \leq 170$	8		
$170 < h \leq 180$	10		

Question 11

Niall measured the heights of flowers in two different parks. By considering a measure of central tendency and a measure of spread analyse the data to determine which park at the tallest flowers. The grouped frequency table gives some information about the heights of the plants in each of the marks.

Palmer Park

Height (h in centimetres)	Frequency
$0 < h \leq 10$	8
$10 < h \leq 15$	19
$15 < h \leq 21$	27
$21 < h \leq 25$	29
$25 < h \leq 50$	17

Mill Pond Park

Height (h in centimetres)	Frequency
$0 < h \leq 10$	7
$10 < h \leq 14$	20
$14 < h \leq 21$	24
$21 < h \leq 26$	28
$26 < h \leq 60$	21

(10)

