

**AVERAGES**

**Pearson Edexcel - Tuesday 21 May 2019 - Paper 1 (Non-Calculator) Foundation Tier**

1.

5 Find the number that is exactly halfway between 7 and 15

---

(Total for Question 5 is 1 mark)

---

**Pearson Edexcel – Specimen 1 - Paper 2 (Calculator) Foundation Tier**

2.

**10** The manager of a clothes shop recorded the size of each dress sold one morning.

10 10  
12 12  
14 14 14 14 14 14  
16 16 16 16  
18 18 18  
20 20 20

The sizes of dresses are always even numbers.

The mean size of the dresses sold that morning is 15.3

The manager says,

“The mean size of the dresses is **not** a very useful average.”

(i) Explain why the manager is right.

.....

.....

(ii) Which is the more useful average for the manager to know, the median or the mode?  
You must give a reason for your answer.

.....

.....

.....

---

**(Total for Question 10 is 2 marks)**

**OCR November 09 November 2020- Morning (Calculator) Foundation Tier**

3.

4 A teacher asks nine of his pupils how many pets they have at home.

Here are the results.

1    1    1    2    3    4    5    7    111

(a) Work out the range of the nine results.

(a) ..... [1]

(b) The median of the nine results is 3.  
The mean is 15.

(i) Write down the mode.

(b)(i) ..... [1]

(ii) The teacher wants to use a sensible average to summarise the results.

Which average should he use and why?

..... because .....

..... [1]

---

**OCR Tuesday 5 November 2019 – Morning (Calculator) Foundation Tier**

4.

- 14** Dean drives a distance of 760 km in 9 hours.  
Robert drives a distance of 559 km in 6 hours 30 minutes.

Who has the highest average speed?  
Show how you decide.

..... because .....

..... [4]

OCR Thursday 07 November 2019- Morning (Non-Calculator) Foundation Tier

5.

- 8 Hannah saves an amount of money each week.  
Here are the amounts, in pounds, that she saved in the first 5 weeks of 2019.

13      58      11      22      11

(a) Find

(i) the median of the five amounts,

(a)(i) £ ..... [2]

(ii) the range of the five amounts.

(ii) £ ..... [2]

- (b) In the 6th week, she also saved some money.  
The mean amount that Hannah saved each week over the 6 weeks was £22.

How much did she save in the 6th week?

(b) £ ..... [3]

**OCR Tuesday 21 May 2019 – Morning (Calculator) Foundation Tier**

6.

**10** Mr and Mrs Wilde have five children who are all **different** ages.

- The mean age is 6.4.
- The range is 9.
- The median is 6.
- The oldest child is 12.

Work out the ages of the children.  
Write their ages from youngest to oldest.

.....  
*youngest* *oldest*

**[4]**

7.

- 20 Luke is an office receptionist.  
Each day, for 60 days, he records the number of people visiting the office.

Number of people, ( $n$ )	Frequency		
$0 \leq n \leq 5$	20		
$5 < n \leq 10$	14		
$10 < n \leq 20$	11		
$20 < n \leq 40$	15		

- (a) Calculate an estimate of the mean number of people visiting the office.

(a) ..... [4]

- (b) Luke says the range is 40.

Explain why he may be wrong.

.....  
..... [1]

OCR Thursday 8 November 2018 – Morning (Non-Calculator) Foundation Tier

8.

4 These are the heights, in metres, of the players in a netball team.

1.30      1.13      1.20      1.23      1.22      1.24      1.15

(a) (i) Find the median height of the 7 players.

(a)(i) ..... m [2]

(ii) Work out the range of the heights of the 7 players.

(ii) ..... m [2]

(iii) The sum of the heights of the 7 players is 8.47 m.

Calculate the mean height of the 7 players.

(iii) ..... m [2]

(b) The tallest player is replaced by a substitute.  
The median height of the players is unchanged.  
The mean height of the players becomes smaller.

Write down a possible height for the substitute.

(b) ..... m [2]



OCR Monday 12 November 2018 – Morning (Calculator) Foundation Tier

9.

- 17 The police record the speed of vehicles passing a speed checkpoint. The speeds are recorded in the table below.

Speed ( $s$ mph)	Number of vehicles		
$0 < s \leq 20$	5		
$20 < s \leq 40$	8		
$40 < s \leq 50$	37		
$50 < s \leq 60$	47		
$60 < s \leq 80$	3		

- (a) Calculate an estimate of the mean speed of the vehicles.

(a) ..... mph [4]

- (b) Explain why it is not possible to use the information from this table to calculate the exact value of the mean speed.

.....  
.....  
..... [1]

**OCR Monday 24 May 2018 – Morning (Calculator) Foundation Tier**

10.

**1** Here is a list of numbers.

2      8      5      12      6

**(a)** From this list, write down

(i) the odd number,

**(a)(i)** ..... **[1]**

(ii) the cube number.

**(ii)** ..... **[1]**

**(b)** Using the same list of numbers, work out

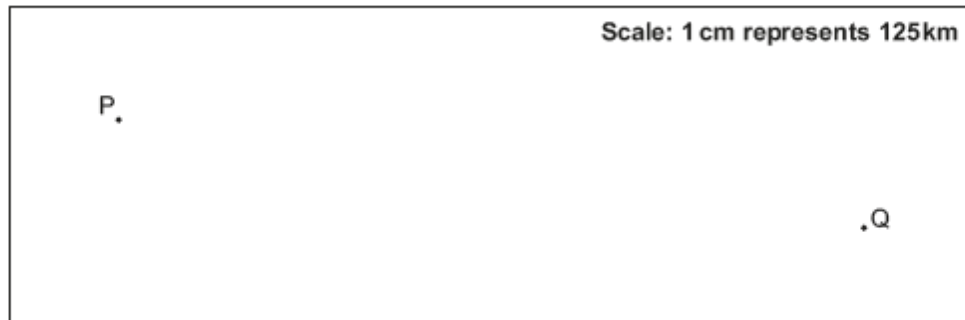
(i) the median,

**(b)(i)** ..... **[1]**

(ii) the range.

11.

19 The scale diagram below shows two cities, P and Q.



A plane departs from P at 0947 and arrives at Q at 1207.

(a) Work out the average speed, in kilometres per hour, of the plane.

(a) .....km/h [5]

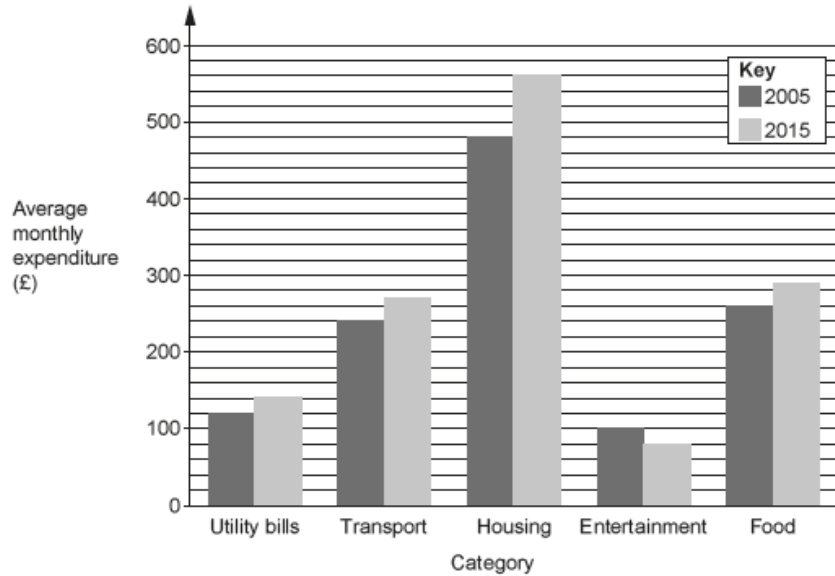
(b) Give one reason why your answer may be inaccurate.

.....  
..... [1]

OCR Thursday 7 June 2018 – Morning (Non Calculator) Foundation Tier

12.

- 6 This bar chart shows the average monthly expenditure, by category, of households in a particular town in 2005 and 2015.



- (a) In which category was there a decrease in the average monthly expenditure between 2005 and 2015?

(a) ..... [1]

- (b) How much more was the average monthly expenditure on housing in 2015 than in 2005?

(b) £ ..... [2]

- (c) The total average monthly expenditure in 2005 was £1200.

What percentage of this was spent on transport?

(c) ..... % [3]

OCR Tuesday 12 June 2018– Morning (Calculator) Foundation Tier

13.

17 Ping chooses four numbers.

The mode of these four numbers is 8, the range is 7 and the mean is 11.

Find Ping's four numbers.

..... [3]

**OCR Monday 6 November 2017– Morning (Calculator) Foundation Tier**

14.

- 4 One morning, **eight** buses arrive at a bus stop.  
The number of minutes late for each bus is shown below.

0 7 2 6 9 2 0 7

In the afternoon, two more buses arrive at the bus stop.

The median number of minutes late of **all ten** buses is 3.5.  
The mode number of minutes late of **all ten** buses is 0.

How many minutes late were the two afternoon buses?

..... and ..... minutes [3]

**Pearson Edexcel –Sample Papers - Paper 2 (Calculator) Foundation Tier**

15.

- 9 Here is a list of numbers

12 19 12 15 11 15 12 13 17

Find the median.

.....  
**(Total for Question 9 is 2 marks)**

---

**OCR Wednesday 8 November 2017– Morning (Calculator) Foundation Tier**

16.

- 8** The average mass of a man is 84 kg and of a woman is 70 kg.

A lift can safely carry 630 kg.

To find how many people the lift can safely carry, Dan divides the safe total mass by the average mass of a person.

$$630 \div 77 = 8.18\dots$$

- (a)** How has the average mass of a person, 77 kg, been worked out?

.....  
..... **[1]**

Dan decides that his answer shows the lift can safely carry 8 people.

- (b)** Explain why he is wrong and give an example, with working, to support your answer.

.....  
.....  
..... **[3]**

**OCR Thursday 8 June 2017 – Morning (Non - Calculator) Foundation Tier**

17.

- 18** Jenny played four games of golf.  
For these games her modal score was 76 and her mean score was 75.  
Her range of scores was 10.

What were her scores for the four games?

..... [4]

**AQA Tuesday 19 May 2020 – Morning (Non-Calculator) Foundation Tier**

18.

- 1** Here are some numbers.

5	5	8	13	14	15	17
---	---	---	----	----	----	----

Circle the range.

**[1 mark]**

5                      11                      12                      13



AQA Thursday 4 June 2020 – Morning (Calculator) Foundation Tier

19.

- 6** Eleven people play a game.  
Here are their scores.

12 9 15 9 18 18 3 14 9 16 20

- 6 (a)** Write down the mode.

**[1 mark]**

Answer \_\_\_\_\_

- 6 (b)** Work out the median.

**[2 marks]**

---

---

Answer \_\_\_\_\_

AQA Monday 8 June 2020 – Morning (Calculator) Foundation Tier

20.

- 28** Here is some information about 26 houses.  
 $a$ ,  $b$  and  $c$  are all **different** numbers.

Number of bedrooms	Number of houses
1	7
2	$a$
3	$b$
4	$c$
5	8

The median number of bedrooms is 3.5

Work out a possible set of values for  $a$ ,  $b$  and  $c$ .

**[3 marks]**

---

---

---

---

$a =$  \_\_\_\_\_

$b =$  \_\_\_\_\_

$c =$  \_\_\_\_\_

**AQA Tuesday 6 November 2018 – Morning (Non-Calculator) Foundation Tier**

21.

- 2** What does the longest bar in a bar chart represent?  
Circle your answer.

**[1 mark]**

mean

median

mode

range

**AQA Monday 12 November 2018 – Morning (Calculator) Foundation Tier**

22.

- 18** Four friends all give each other presents.  
The total cost of the presents is £83.40  
Work out the mean cost of a present.

**[3 marks]**

---

---

---

---

Answer £ \_\_\_\_\_

AQA Thursday 24 May 2018 – Morning (Non-Calculator) Foundation Tier

23.

**10** Here is a list of numbers.

5 6 1 3 5 5 8 4 2 2

**10 (a)** Work out the median.

**[2 marks]**

---

---

---

---

Answer \_\_\_\_\_

**10 (b)** Work out the mean.

**[2 marks]**

---

---

---

---

Answer \_\_\_\_\_

AQA Thursday 24 May 2018 – Morning (Non-Calculator) Foundation Tier

24.

**29** The range of a set of numbers is  $15\frac{1}{4}$   
The smallest number is  $-2\frac{7}{8}$   
Work out the largest number. **[3 marks]**

---

---

---

---

---

---

---

---

Answer \_\_\_\_\_

AQA Thursday 2 November 2017 – Morning (Non-Calculator) Foundation Tier

25.

**25** Circle the expression for the range of  $n$  consecutive integers. **[1 mark]**

$\frac{n+1}{2}$        $n-1$        $n$        $n+1$

AQA Monday 6 November 2017 – Morning (Calculator) Foundation Tier

26.

18 Here are five cards.



One of the cards is removed.

The mean of the numbers on the remaining four cards is 6

Which card was removed?

You **must** show your working.

[3 marks]

---

---

---

---

---

---

---

Answer \_\_\_\_\_

27.

**22** The table shows information about the UK and Germany.

	<b>Population</b>	<b>Area (square miles)</b>
<b>UK</b>	64 000 000	95 000
<b>Germany</b>	82 000 000	140 000

$$\text{Population density} = \frac{\text{population}}{\text{area}}$$

Compare the population densities of the UK and Germany.

**[3 marks]**

---

---

---

---

---

---

---

28.

**23** Which **one** of the following is discrete data?

Circle your answer.

**[1 mark]**

Mass of a television

Time taken to deliver a television

Height of a television mast

Number of televisions sold

**AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier**

29.

**7** Here is a list of numbers.

21 17 23 21 29 32 21 25 36

Work out the median.

**[2 marks]**

---

---

Answer \_\_\_\_\_

**AQA Thursday 8 June 2017– Morning (Calculator) Foundation Tier**

30.

**10** The average age of teachers at a school is 36 years.

Mr Smith's age is  $\frac{11}{9}$  of the average.

How old is Mr Smith?

**[2 marks]**

---

---

---

Answer \_\_\_\_\_ years



**AQA Sample Paper 3– Morning (Calculator) Foundation Tier**

31.

**1** Here are seven numbers.

13      6      12      7      6      4      8

**1 (a)** Work out the range of the seven numbers.

Circle your answer.

**[1 mark]**

5      6      7      8      9

**1 (b)** What is the mode of the seven numbers?

Circle your answer.

**[1 mark]**

5      6      7      8      9