FUNCTIONAL SKILLS MATHEMATICS

AQA | Edexcel | City & Guilds | Open Awards | NCFE | Highfield

Level 2

Mean, Median, Mode and Range

Materials

- You **cannot** use a calculator for **questions** with this symbol.

Instructions

- Answer **all** questions.
- Answer questions on separate paper.

Information and Advice

- The marks for each question are shown in brackets – use this as a guide on how long to spend on each question.
- Read each question carefully before you answer it.
- Check you answers.

Q1 Here is a list of numbers:

$$9, 5, 1, 4, 8, 6, 2, 11, 4, 3$$

1(a) Calculate the mean of the list of numbers.

[2 marks]

1(b) Calculate the median of the list of numbers.

[2 marks]

1(c) Calculate the mode of the list of numbers.

[1 mark]

1(d) Calculate the range of the list of numbers.

[1 mark]

Q2 Leah and Roma roll two dice and add the scores together.

They record their results in the list below:

$$11, 2, 6, 7, 9, 7, 8, 4, 12, 10, 5, 3, 7, 8, 6$$

2(a) Calculate the mean score.

[2 marks]

2(b) Calculate the median score.

[2 marks]

2(c) Calculate the mode score.

[1 mark]

2(d) Calculate the range of the scores.

[1 mark]

2(e) Is it possible for the range to be any greater than your answer for part (d)? Give a reason for your answer.

[1 mark]

Q3 Manish records the speed (in mph) of cars that pass by his house.

Here are the speeds that he records:

$$29, 34, 32, 26, 25, 37, 30, 27, 22, 26, 29, 31$$

3(a) Calculate the mean speed of the cars that pass by Manish's house.

[2 marks]

3(b) Calculate the median speed.

[2 marks]

3(c) Calculate the mode speed.

[1 mark]

3(d) Calculate the range of the speed of cars that pass by Manish's house.

[1 mark]

Q4 Theo has grown some pumpkins in his garden.

He makes a list of the pumpkins weight in kg:

$$8.3, 9.8, 9.1, 10.8, 11.1, 9.5, 12.5, 10.8, 13.2, 10.2$$

4(a) Calculate the mean weight of the pumpkins.

[2 marks]

4(b) Calculate the median weight of the pumpkins.

[2 marks]

4(c) Calculate the mode weight of the pumpkins.

[1 mark]

4(d) Calculate the range of the weights of the pumpkins.

[1 mark]

Q5 Ruben records the ages of everyone at a party.

Here is a list of the ages (in years):

$$16, 22, 34, 25, 62, 36, 26, 12, 29, 9, 41, 55, 34, 19$$

5(a) Calculate the mean age at the party.

[2 marks]

5(b) Calculate the median of the ages at the party.

[2 marks]

5(c) Calculate the range of the ages.

[1 mark]

5(d) The 9 year old leaves the party with their parent who is 36.

How does this affect your answer to part (c)?

[1 mark]

Q6 Here are the prices of some cars at a car dealership:

$$£5200, £4350, £3650, £5200, £3900, £2450, £6000, £5200, £3650$$

6(a) Calculate the mean price of the cars.

[2 marks]

6(b) Calculate the median of the prices of cars.

[2 marks]

6(c) Calculate the mode of the prices of cars.

[1 mark]

6(d) Calculate the range of the prices of cars.

[1 mark]

6(e) The car that is priced at £3900 is sold.

If this car is removed from the list, how does this affect your answer to part (a)?

[1 mark]

Q7 Megan is looking at the different amounts of sugar in soft drinks.

She lists the amount of sugar (in grams) per 100 ml in all the popular drinks:

$$11.1, 8.5, 5.8, 10.6, 10.9, 11, 5.5, 6.1, 7.9$$

7(a) Calculate the mean sugar per 100 ml for the soft drinks.

[2 marks]

7(b) Calculate the median amount of sugar in soft drinks per 100 ml.

[2 marks]

7(c) Calculate the range of the sugar per 100 ml for the soft drinks.

[1 mark]

Q8 Dwight records how many minutes late all of his colleagues were getting into work on one day.

He makes a list of the times:

$$0, 4, 9, 7, 0, 0, 2, 3, 14, 15, 2, 1, 0, 6, 0, 2, 5, 10, 29, 8$$

8(a) Calculate the mean.

[2 marks]

8(b) Calculate the median.

[2 marks]

8(c) Calculate the mode.

[1 mark]

8(d) Calculate the range.

[1 mark]