

## Calculating the mean

The 'mean' is also called the 'average'. By calculating the mean, we can summarise a set of numbers (called 'data') - this will help us to understand **the overall value** of a given set of values. Sometimes these values come from **repeating** an experiment - when we repeat an experiment and then calculate the **mean** of the results, the **reliability** of the results are improved as gives us more **representative** results.

### Things to remember:

- 2 steps - add up numbers in your dataset (group of numbers) then divide by the number of numbers in your data set.
- Your mean value should be between the biggest and smallest numbers you have
- Always give units if you can
- There are 2 marks available when calculating a mean - one for your working and one for the answer (with the correct unit, if a unit is used).

### Worked example:

**Question:** Ryan plays basketball on a team. He has played three games so far. In the first game, he scored 10 points. In the second game, he scored 14 points. In the third game, he scored 6 points. What is Ryan's mean/average points per game?

**Answer:**

**Step 1:**             $10 + 14 + 6 = 30$             (1)

**Step 2:**             $30 \text{ divided by } 3 = \underline{10} \text{ points}$             (1)

Try these then do the questions on the following pages:

### EXERCISE 1

1. Mandy earns money by delivering groceries. She earned £4 on Monday, £7 on Tuesday, £5 on Wednesday, £4 on Thursday, and £5 on Friday. What is the mean amount of money Mandy earned per day?
2. Harley read 5 books in January, 8 books in February, 4 books in March, and 7 books in April. What is the mean number of books Harley read per month?
3. The 7 employees at a company are paid the following wages per month:

**£100, £130, £100, £90, £480, £120, £100**

- a) What is the mean wage at the company?
- b) How much above the mean is the highest earner paid?
- c) How much below the mean is the lowest earner paid?

**EXERCISE 2** For each dataset below - write your working and the answer

Calculate the mean of each data set.

1) 9, 3, 6

Mean = \_\_\_\_\_

2) 14, 12, 17, 9

Mean = \_\_\_\_\_

3) 15, 8, 10, 5, 7

Mean = \_\_\_\_\_

4) 18, 19, 11

Mean = \_\_\_\_\_

5) 4, 20, 16, 4

Mean = \_\_\_\_\_

6) 12, 11, 12, 20, 15

Mean = \_\_\_\_\_

7) 19, 8, 3

Mean = \_\_\_\_\_

8) 7, 13, 6, 2

Mean = \_\_\_\_\_

9) 12, 15, 17, 2, 14

Mean = \_\_\_\_\_

10) 10, 18, 8

Mean = \_\_\_\_\_

11) 5, 2, 0, 1

Mean = \_\_\_\_\_

12) 3, 9, 5, 16, 7

Mean = \_\_\_\_\_

### EXERCISE 3

1) 13, 11, 8, 15, 5, 2

Mean = \_\_\_\_\_

2) 80, 82, 65, 78, 69, 72, 79

Mean = \_\_\_\_\_

3) 75, 14, 48, 81, 39, 67, 33, 19

Mean = \_\_\_\_\_

4) 54, 46, 27, 66, 35, 84

Mean = \_\_\_\_\_

5) 37, 40, 26, 53, 6, 71, 68

Mean = \_\_\_\_\_

6) 63, 58, 69, 55, 49, 64, 70, 52

Mean = \_\_\_\_\_

7) 43, 21, 45, 7, 30, 4

Mean = \_\_\_\_\_

8) 5, 60, 28, 44, 5, 87, 23, 36

Mean = \_\_\_\_\_

9) 89, 80, 85, 83, 70, 100, 95

Mean = \_\_\_\_\_

10) 16, 10, 22, 0, 15, 9

Mean = \_\_\_\_\_

11) 25, 36, 34, 17, 38, 31, 50

Mean = \_\_\_\_\_

12) 99, 32, 29, 24, 62, 42, 79, 41

Mean = \_\_\_\_\_

#### EXERCISE 4

1) 9.6, 2.8, 6.5

Mean = \_\_\_\_\_

2) 2.9, 4.5, 8.2, 5.2

Mean = \_\_\_\_\_

3) 13.4, 15.8, 19.6, 11.7, 14

Mean = \_\_\_\_\_

4) 12.7, 3.5, 4.8

Mean = \_\_\_\_\_

5) 8.5, 12.3, 5, 18.4

Mean = \_\_\_\_\_

6) 11.4, 17.2, 13.1, 9.8, 15.5

Mean = \_\_\_\_\_

7) 16.2, 10.5, 14.7

Mean = \_\_\_\_\_

8) 6.8, 7.1, 5.2, 8.3

Mean = \_\_\_\_\_

9) 4.2, 17.8, 13.6, 0, 1.3

Mean = \_\_\_\_\_

10) 19.4, 6.3, 11.5

Mean = \_\_\_\_\_

11) 15.9, 18.2, 12.4, 10.7

Mean = \_\_\_\_\_

12) 20, 16.5, 18.9, 16.5, 14.6

Mean = \_\_\_\_\_