

Mathematics

# Mean from Frequency Tables

Mr Millar



# Try this

Cala asks 25 students in her year how many bottles of water they drank yesterday. Here are her results in a frequency table. Find the mean.

Number of Bottles	Frequency
0	4
1	9
2	6
3	4
4	1
5	0
6	1

I can find the total number of bottles drunk first



# Connect

Two students are discussing how to find the mean number of books read. How does Cala know that Binh must be wrong?

Number of books	Frequency
0	10
1	11
2	13
3	11
4	12

I add up the frequencies and divide by 5 so the mean is  $\frac{57}{5} = 11.4$



11.4 can't be the mean!



# Independent task

Find the mean of these frequency tables.  
Use the third column to help you find the mean.

Number of goals scored	Frequency
0	1
1	2
2	8
3	4

Test score	Frequency
50	1
55	4
60	3
65	1
70	1

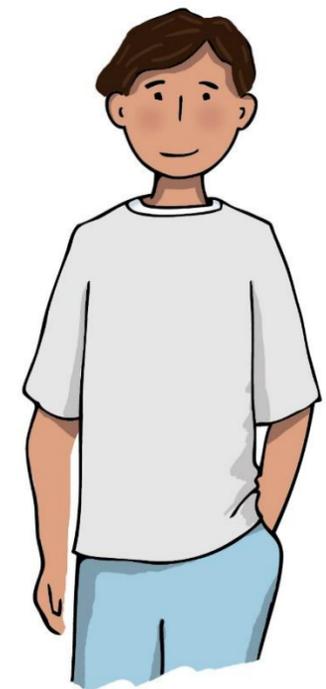


# Explore

Antoni has recorded the number of books that 20 students in his class have read, but one of his numbers got smudged!

He knows that the mean is 6. Can you help him find the missing number?

Number of books	Frequency
0	1
3	2
4	5
?	5
8	4
9	3



# Answers



# Try this

Cala asks 25 students in her year how many bottles of water they drank yesterday. Here are her results in a frequency table. Find the mean.

Number of Bottles	Frequency	
0	4	$0 \times 4 = 0$
1	9	$1 \times 9 = 9$
2	6	$2 \times 6 = 12$
3	4	$3 \times 4 = 12$
4	1	$4 \times 1 = 4$
5	0	$5 \times 0 = 0$
6	1	$6 \times 1 = 6$

$$43 \div 25 = 1.72$$

I can find the total number of bottles drunk first



# Connect

Two students are discussing how to find the mean number of books read. How does Cala know that Binh must be wrong?

Number of books	Frequency
0	10
1	11
2	13
3	11
4	12

11.4 can't be the mean as it doesn't lie within the data set (0 to 4 books). The mean is actually 2.07

I add up the frequencies and divide by 5 so the mean is  $\frac{57}{5} = 11.4$



11.4 can't be the mean!



# Independent task

Find the mean of these frequency tables.  
Use the third column to help you find the mean.

Number of goals scored	Frequency	
0	1	$0 \times 1 = 0$
1	2	$1 \times 2 = 2$
2	8	$2 \times 8 = 16$
3	4	$3 \times 4 = 12$

$$30 \div 15 = 2$$

Test score	Frequency	
50	1	$50 \times 1 = 50$
55	4	$55 \times 4 = 220$
60	3	$60 \times 3 = 180$
65	1	$65 \times 1 = 65$
70	1	$70 \times 1 = 70$

$$585 \div 10 = 58.5$$



# Explore

Antoni has recorded the number of books that 20 students in his class have read, but one of his numbers got smudged!

He knows that the mean is 6. Can you help him find the missing number?

Number of books	Frequency	
0	1	$0 \times 1 = 0$
3	2	$3 \times 2 = 6$
4	5	$4 \times 5 = 20$
?	5	$\underline{\quad} \times 5 = \underline{\quad}$
8	4	$8 \times 4 = 32$
9	3	$9 \times 3 = 27$

Since the mean = 6, the data must sum to 120. Therefore the missing total is 35, and so the missing number (?) = 7

