

Mathematics

Problem solving with the Mean

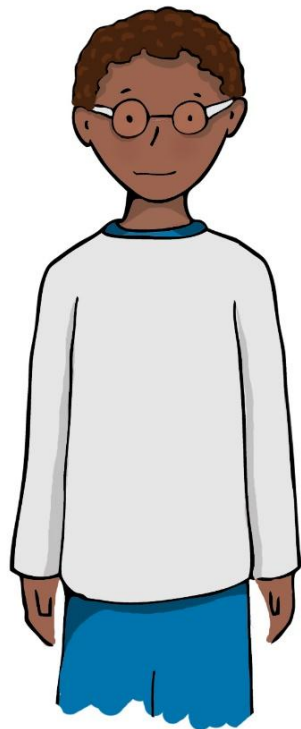
Mr Millar



Connect

The mean weight of a class of 35 students is 45 kg.

When the weight of the teacher is included, the mean weight increases by 500 g. Find the weight of the teacher.



I can start off by working out the **total** weight of the 35 students



Independent task

The mean of 2, 4, 4, 7, 8 is 5.

Predict whether the mean of the following sets of numbers is **less than**, **equal to**, or **more than** 5.

<5

=5

>5

2, 4, 4, 7, 9

1, 4, 4, 7, 8

2, 4, 5, 6, 8

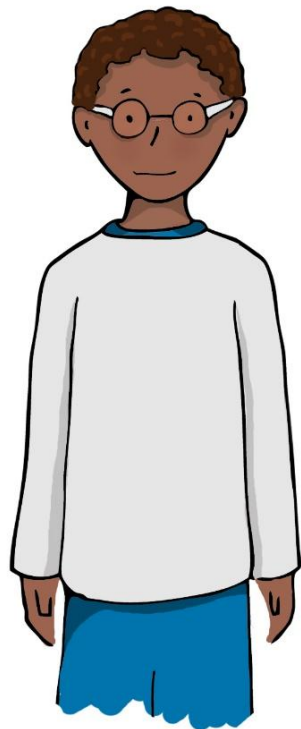
2, 4, 4, 7, 8, 5

2, 4, 4, 7, 9, 6



Independent task

Timothy's mean score on the first 3 tests was 75.
On the next 5 tests his mean score was 85.
What was his mean score on all 8 tests?



I can start off by working out the **total** score from the first 3 tests...



Explore

Here are 5 cards.



One card is removed and the mean is now 3.25. Which number has been removed?



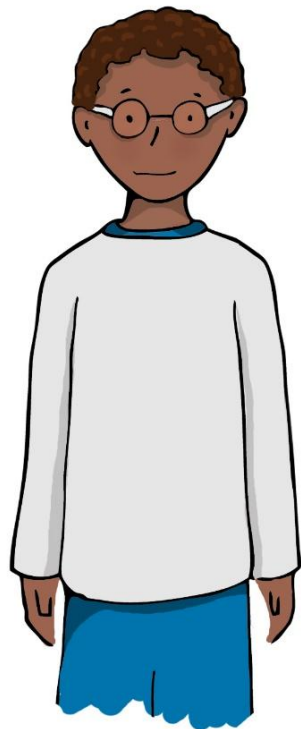
Answers



Try this

The mean weight of a class of 35 students is 45 kg.

When the weight of the teacher is included, the mean weight increases by 500 g. Find the weight of the teacher.



I can start off by working out the **total** weight of the 35 students

$$\text{Weight of 35 students: } 35 \times 45 = 1,575\text{kg}$$

$$\text{Weight of 35 students plus teacher: } 36 \times 45.5 = 1,638\text{kg}$$

$$\text{Weight of teacher} = 1,638 - 1,575 = 63\text{kg}$$



Try this

The mean of 2, 4, 4, 7, 8 is 5.

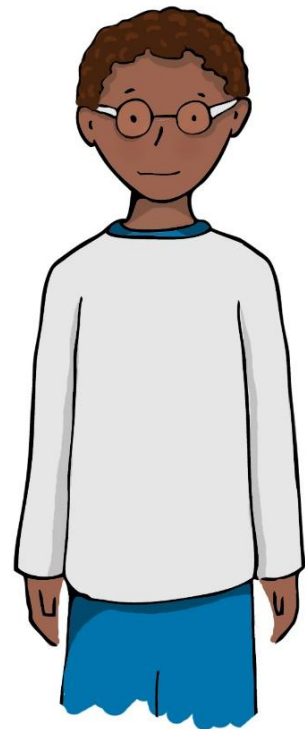
Predict whether the mean of the following sets of numbers is **less than**, **equal to**, or **more than** 5.

	<5	=5	>5
2, 4, 4, 7, 9			More than
1, 4, 4, 7, 8	Less than		
2, 4, 5, 6, 8		Equal to	
2, 4, 4, 7, 8, 5		Equal to	
2, 4, 4, 7, 9, 6			More than



Try this

Timothy's mean score on the first 3 tests was 75.
On the next 5 tests his mean score was 85.
What was his mean score on all 8 tests?



I can start off by working out the **total** score from the first 3 tests...

$$\text{First 3 tests: } 3 \times 75 = 225$$

$$\text{Last 5 tests: } 5 \times 85 = 425$$

$$\text{Mean: } 650 \div 8 = 81.25$$



Try this

Here are 5 cards.



One card is removed and the mean is now 3.25. Which number has been removed?

The 2 has been removed

