Problems of the Day *Day 11 Answers*

1 Use <, > or = to make these number sentences correct.

$9 \times 7 \; (>) \; 8 \times 7$

$48 \div 2 \; (>) \; 48 \div 4$

$300 \times 2 \; (=) \; 20 \times 30$

You don't need to do any calculation – just a little thinking…

- 9 multiplied by any number must be greater than 8 multiplied by the same number so:

9 x 7 > 8 x 7

- Any number divided by 2 must be greater than any number divided by 4 – there are fewer parts if the number is divided by 2 rather than four, so the parts must be bigger:

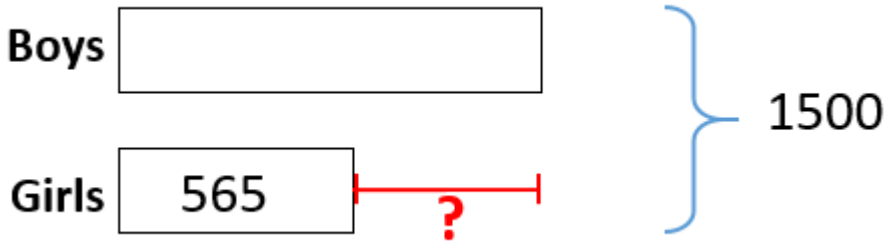
48 ÷ 2 > 48 ÷ 4

- 300 x 2 is the same as 30 x 10 x 2 which is equal to 30 x 20, so:

300 x 2 = 20 x 30

2 There are 1,500 children in a school.
565 of the children are girls.
How many more boys than girls are in the school?

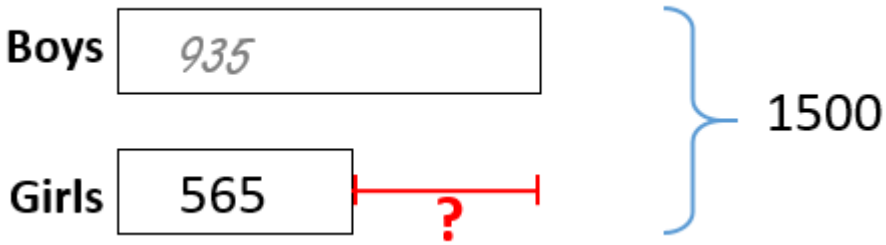
A bar model will help us to make sure that we identify the correct calculations:



The number of boys can be found by subtracting the number of girls from the whole:

Number of boys is 1500 – 565 = 935

Write what we've found out on the bar model:



We can see that we need to do another calculation to find the difference between the number of boys and the number of girls

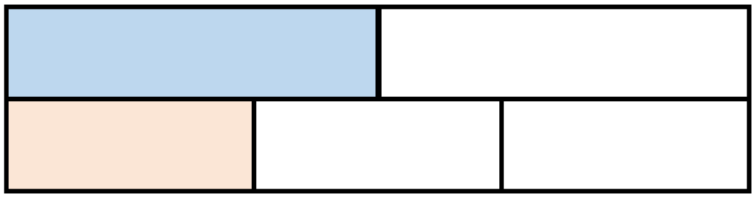
935 – 565 = 370

There are 370 more boys than girls.

3 Mr Patel writes a number on the board.

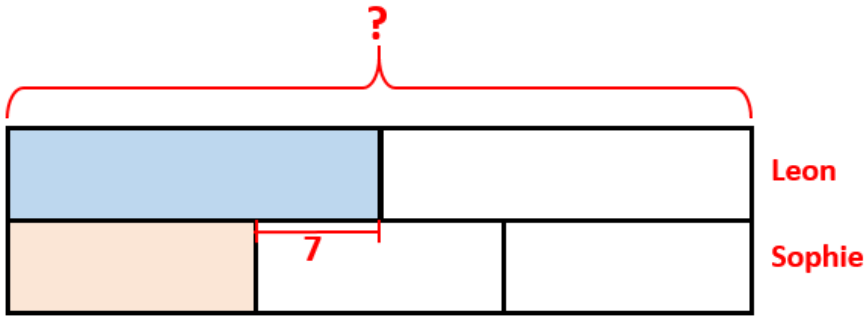
- Leon finds $\frac{1}{2}$ of the number.
- Sophie finds $\frac{1}{3}$ of the number.
- Leon's number is 7 more than Sophie's.

What is the number Mr Patel started with? This bar model may help you.

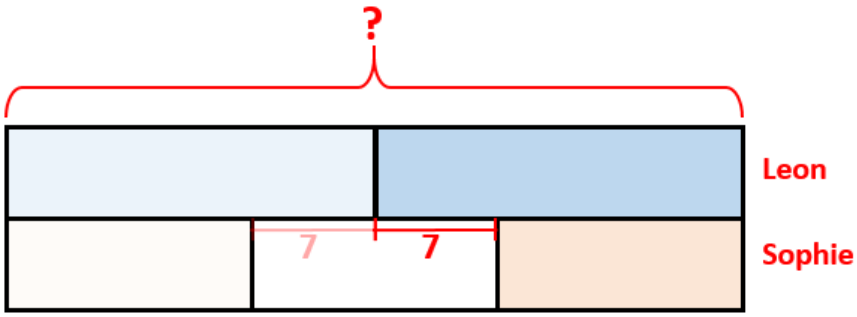


Mark everything you know and what you want to find out.

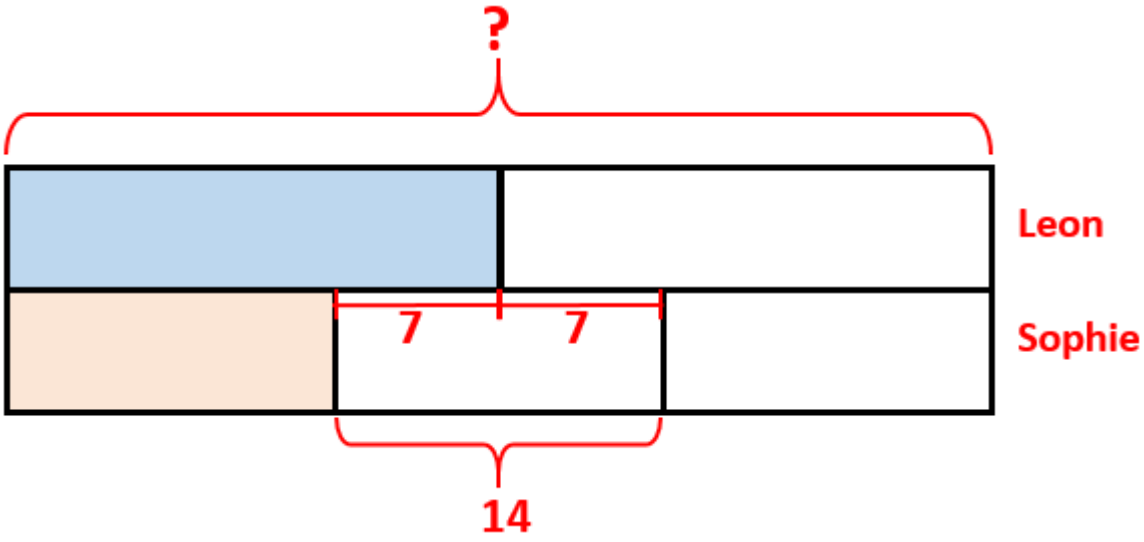
We know that Leon's number is 7 more than Sophie's, so our bar will look like this:



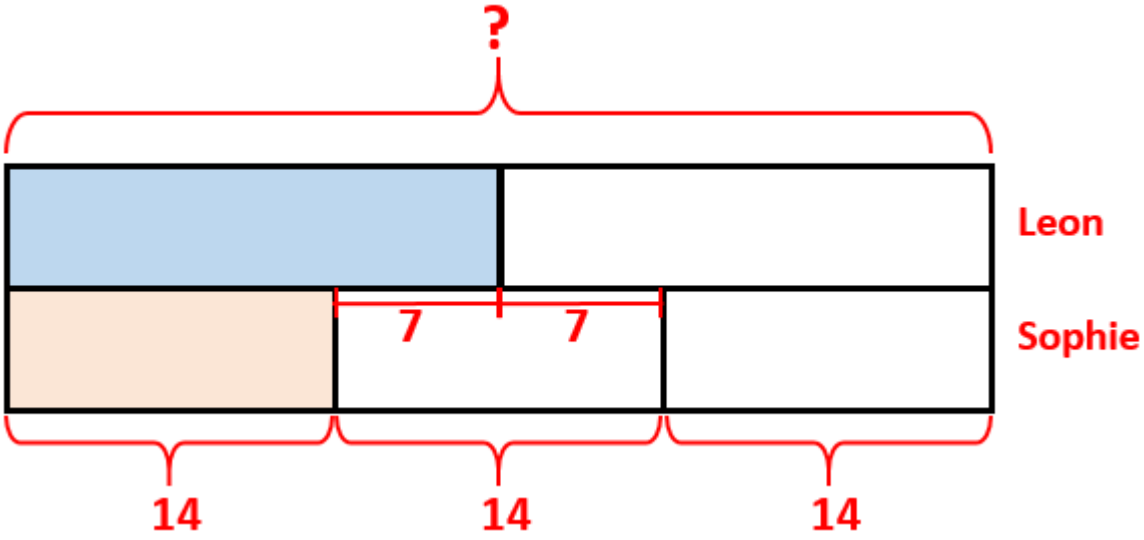
We can however mark another difference of 7



We now see that one third of the number is 14.



The whole must be equivalent to 3 x 14



Mr Patel's number was 3 x 14 = **42**

If the bar wasn't drawn for me, I would have used equivalent fractions:

Half of Mr Patel's number is 7 more than one third of Mr Patel's number.

$\frac{3}{6}$ of Mr Patel's number is 7 more than $\frac{2}{6}$ of Mr Patel's number.

So $\frac{1}{6}$ of Mr Patel's number is 7 .

If $\frac{1}{6}$ of Mr Patel's number is 7, the whole must be 6 x 7 = 42