Year 3 and 4 Maths

18.9.18

Lesson Study – Yeap Ban Har

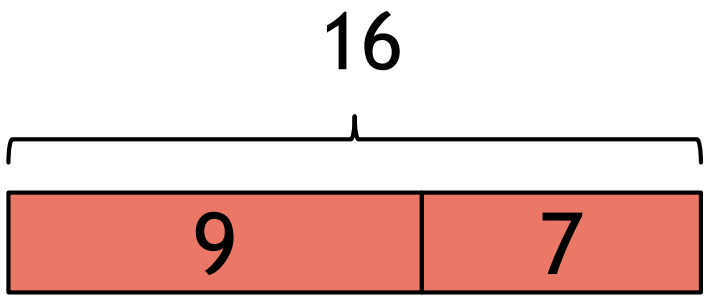
- In focus – video
- Book 4B
- Chapter 11 Page 143
- Area of Figures

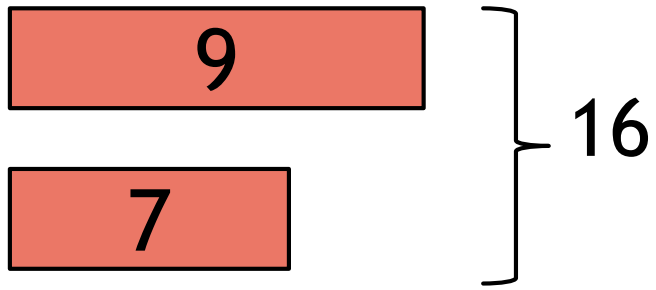
- Arithmetic
- Times Tables
- Bar Model

The Park Federation
Montem Academy

Bar Models

What Are Bar Models?





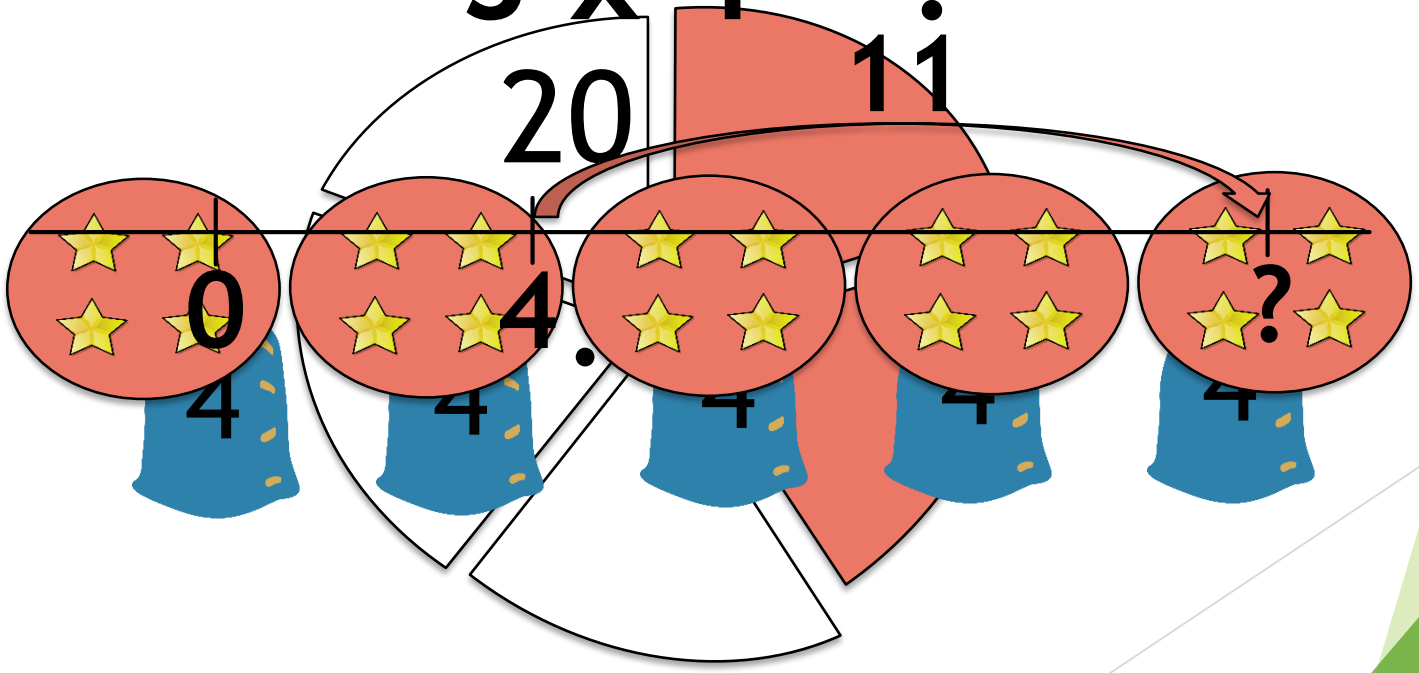
A Consistent Picture

2 of 20 = ?

4 + 11 = ?

Share 20 in the ratio 2:3

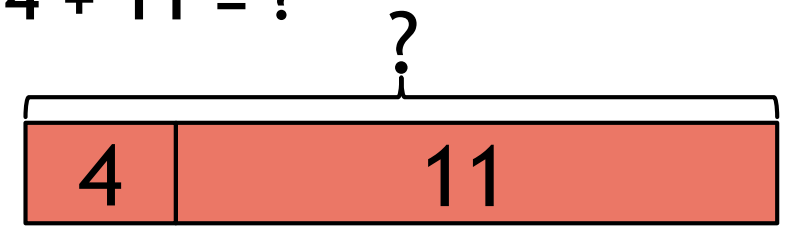
5 x 4 = ?



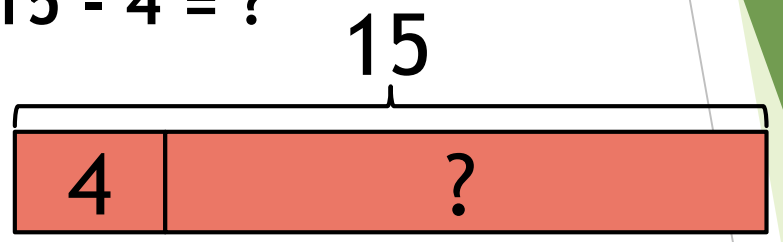
A Consistent Picture

The Park Federation
Montem Academy

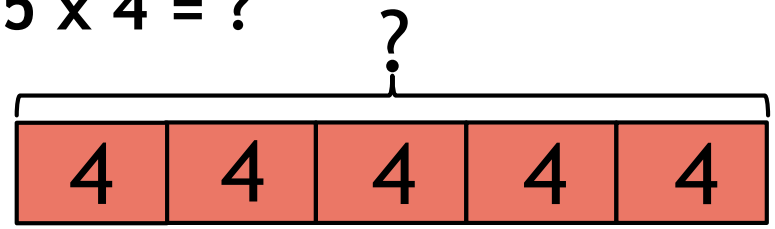
4 + 11 = ?



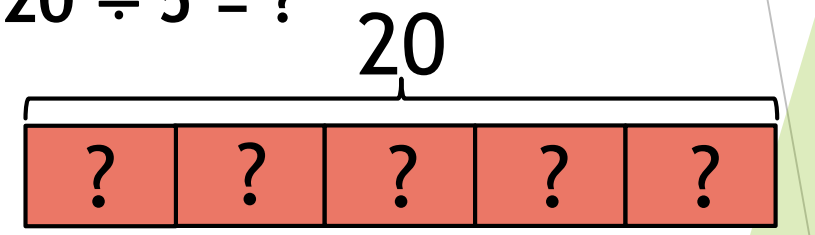
15 - 4 = ?



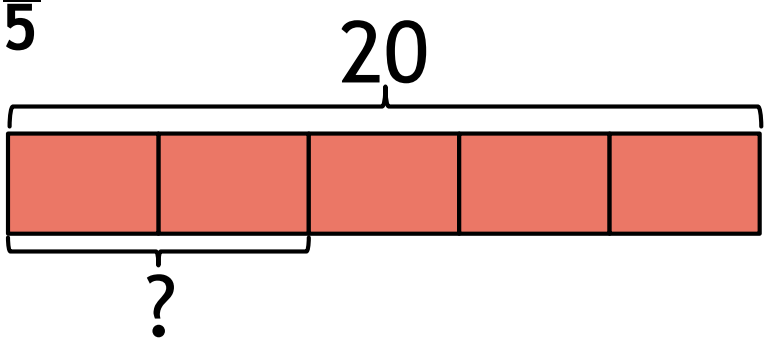
5 x 4 = ?



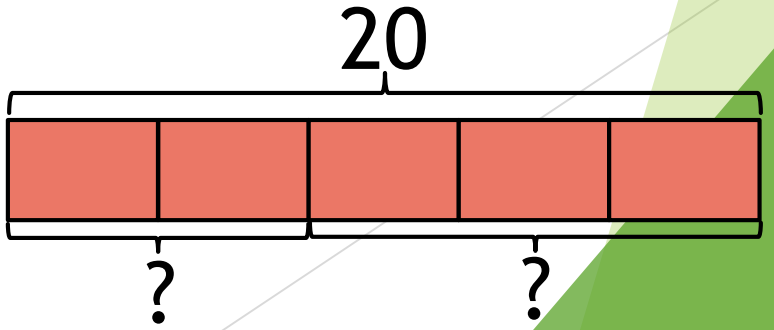
20 ÷ 5 = ?



$\frac{2}{5}$ of 20 = ?



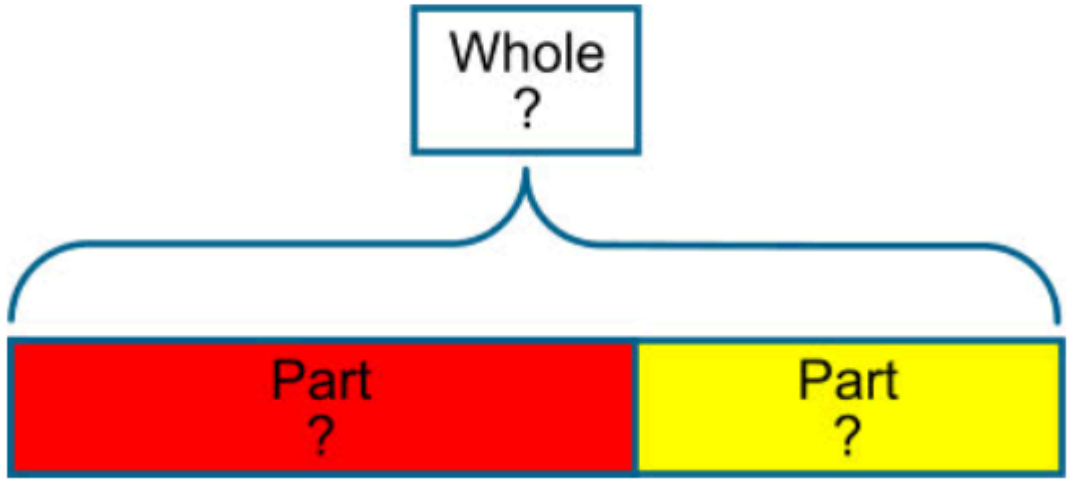
Share 20 in the ratio 2:3

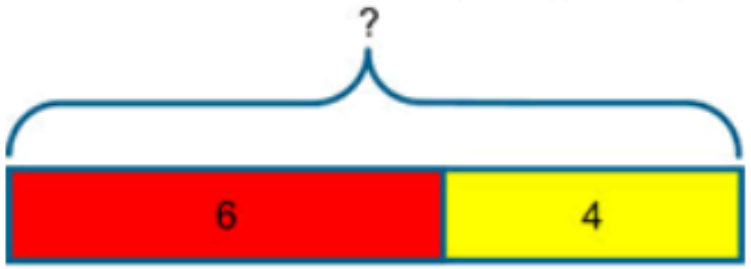


The Park Federation
Montem Academy

Introducing Bar Models

In problems involving addition and subtraction there are three possible unknowns as illustrated below and given the value of two of them the third can be found.

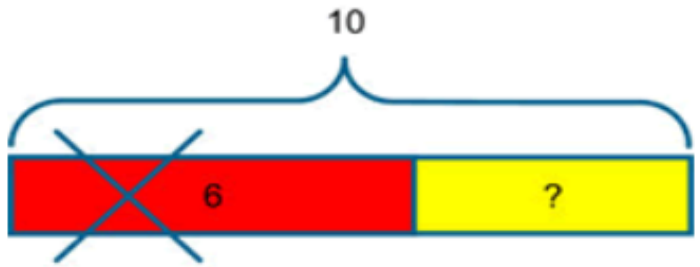




I have 6 red pencils and 4 yellow pencils. How many pencils do I have?

(I combine two quantities to form the whole)

Subtraction
- Take Away

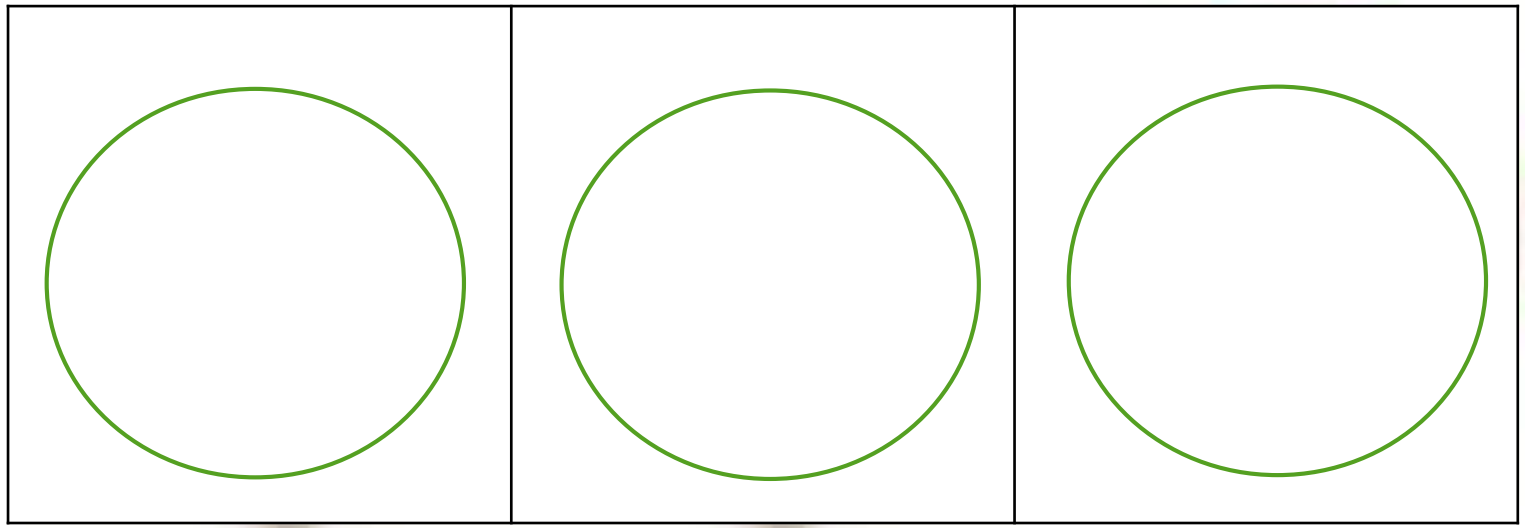


I had 10 pencils and I gave 6 away, how many do I have now?

(This time we know the whole but only one of the parts, so the whole is partitioned and one of the parts removed to identify the missing part)

Introducing Bar Models in EYFS

The Park Federation
Montem Academy



KS1 bar modelling

The Park Federation
Montem Academy

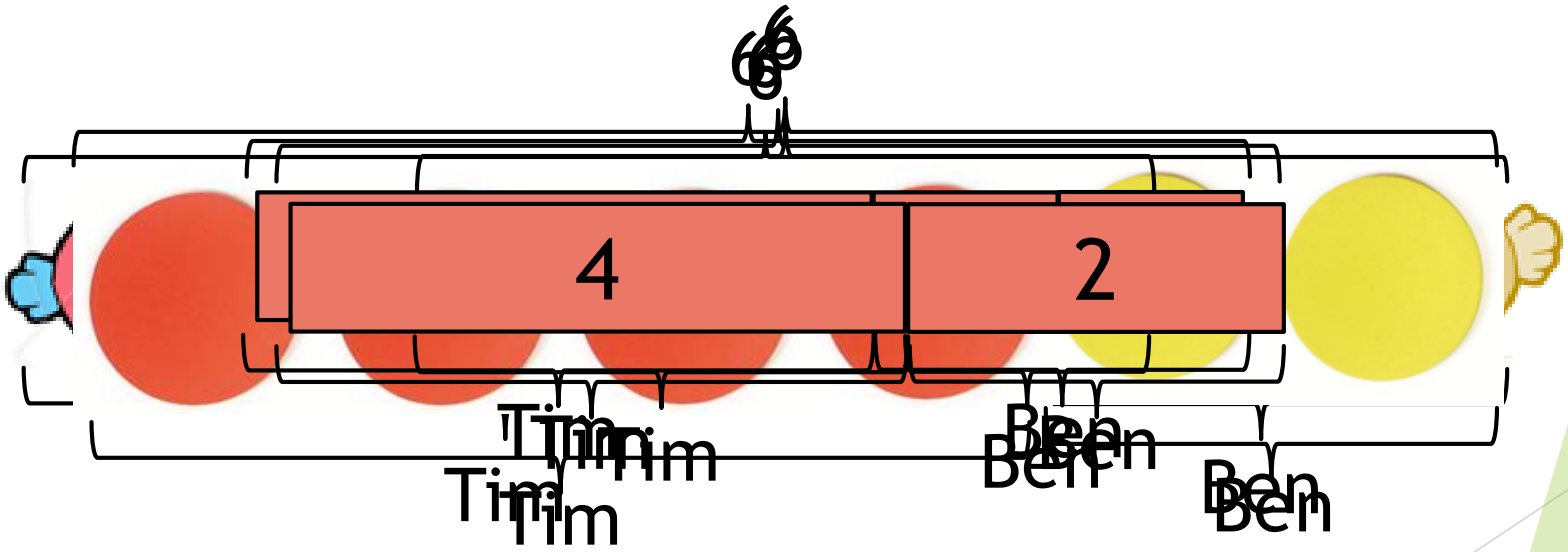
Peter has 5 toy cars and Jane has 3 toy cars.
How many toy cars do they have altogether?

KS1 Bar Modelling

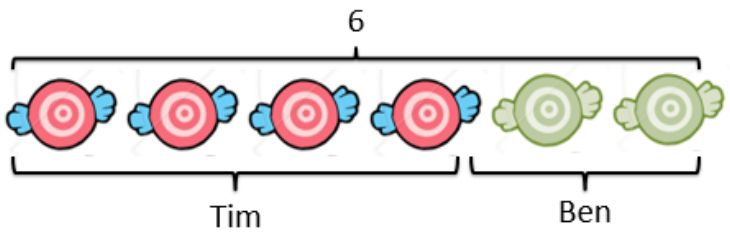
The Park Federation
Montem Academy

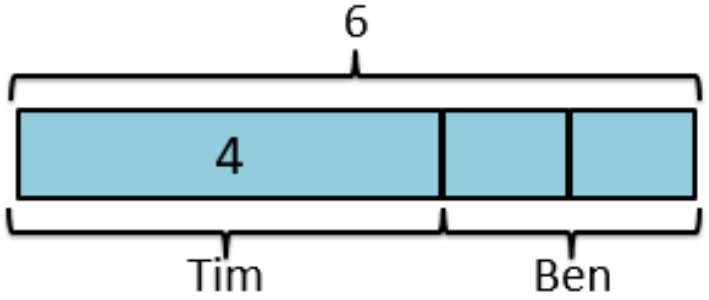
Tim has 4 sweets and Ben has 2 sweets.

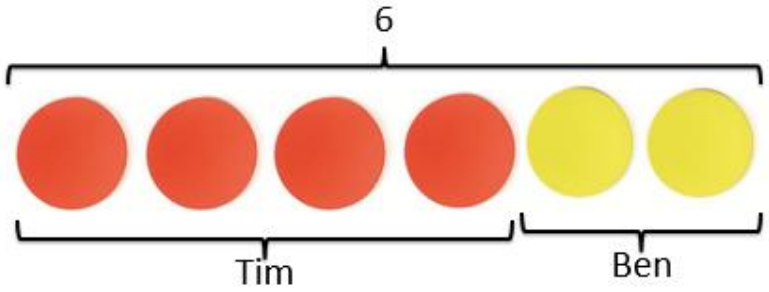
How many sweets do they have altogether?

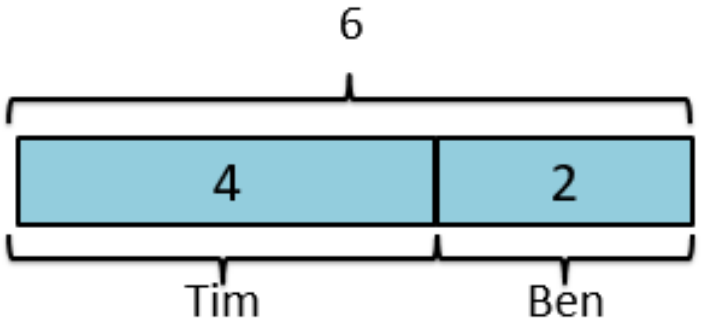


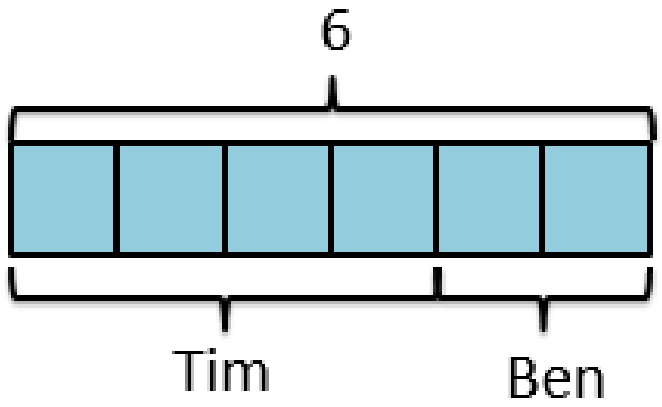
Small steps











4 + 2 = 6

KS2 barmodelling

The Park Federation
Montem Academy

$\frac{3}{5}$ of 20 = ?

KS2 barmodelling

The Park Federation
Montem Academy

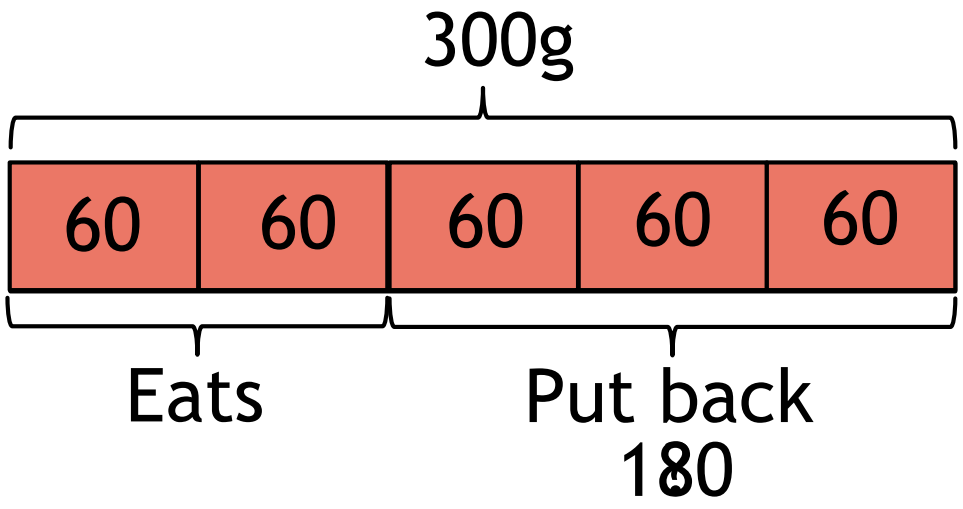
KS2 Bar Modelling

The Park Federation
Montem Academy

Solve… Matthew has a 300g block of cheese. He eats $\frac{2}{5}$ of the cheese and puts the rest back in the fridge.

How much cheese did Matthew put back in the fridge?

Model



Calculations

300 ÷ 5 = 60

3 x 60 = 180

Y6 SATs

In a class, 18 of the children are girls.

A quarter of the children in the class are boys.

Altogether, how many children are there in the class?

Y6 SATs

Usman and Halima have 18 biscuits altogether.

Halima has 4 more biscuits than Usman.

How many biscuits do they each have?

Lets Practice

The Park Federation
Montem Academy

Try these questions in your journal or book.

Draw a bar model for each question.

Challenge Questions

1 There are 36 people on a bus.

Some more people get on.

There are now 50 people on the bus.

How many people get on?

2 Mo is organising a balloon race.

Eighty people are taking part.

Everyone needs a balloon.

Billy blows up 54 balloons.

Mo blows up 37 balloons.

Have they blown up enough balloons?

3 There are some birds in a tree.

15 birds fly into the tree.

12 more fly into the tree.

There are now 45 birds in the tree.

How many birds were in the tree at the start?

4 Mr Batty has a bookshelf in his classroom.

- The top shelf contains 12 books.
- The middle shelf contains 14 books.
- The bottom shelf contains 5 books.

How many books are on the bookshelf in total?

5 Gordon buys these clothes.

He has £100 to start with.

How much does he have left?

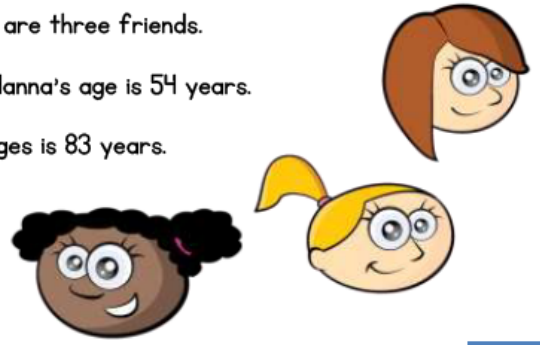
6 Sasha, Amy and Hanna are three friends.

The sum of Amy and Hanna's age is 54 years.

The sum of all three ages is 83 years.

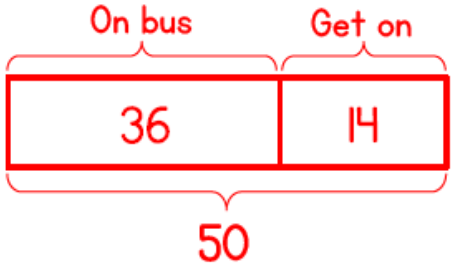
Amy is 21 years old.

Who is the eldest?



Answers

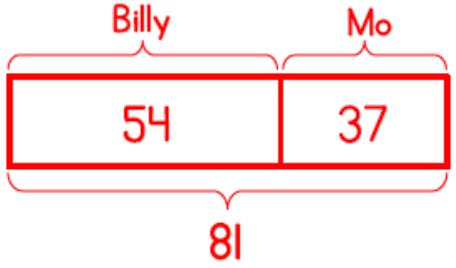
1.



50 - 36 = 14

14 people get on the bus.

2.

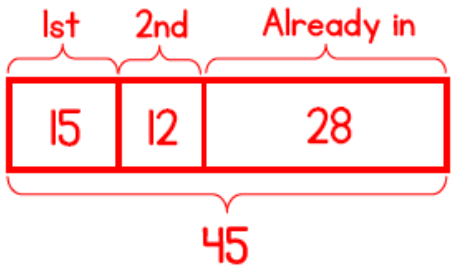


54 + 37 = 81

Yes they have enough balloons.

The need 80 and they have 81.

3.

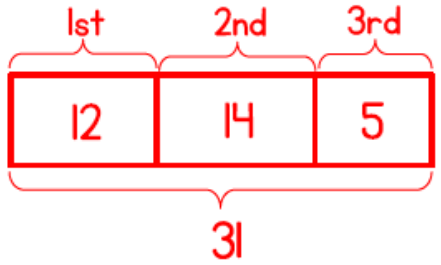


15 + 12 = 27

45 - 27 = 28

There were 28 birds in the tree.

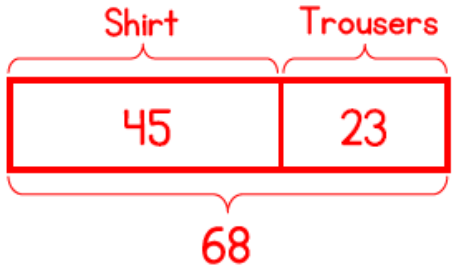
4.



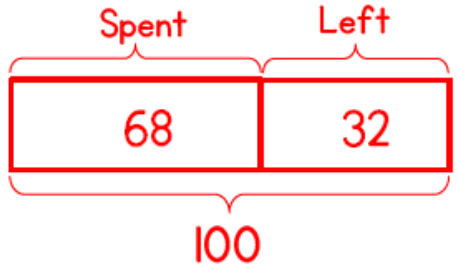
12 + 14 + 5 = 31

There are 31 books in total.

5.



45 + 23 = 62

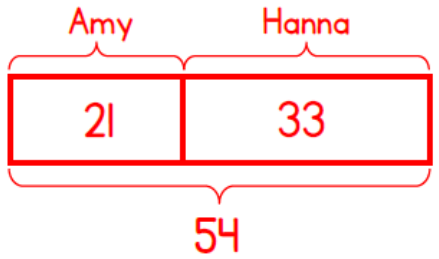


100 - 68 = 32

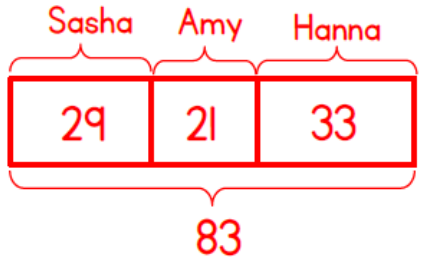
There is £32 left.

Answers continued

6.



54 - 21 = 33



33 + 21 = 54

83 - 54 = 29

Therefore

Amy is 21

Sasha is 29

Hanna is 33

Hanna is the eldest.