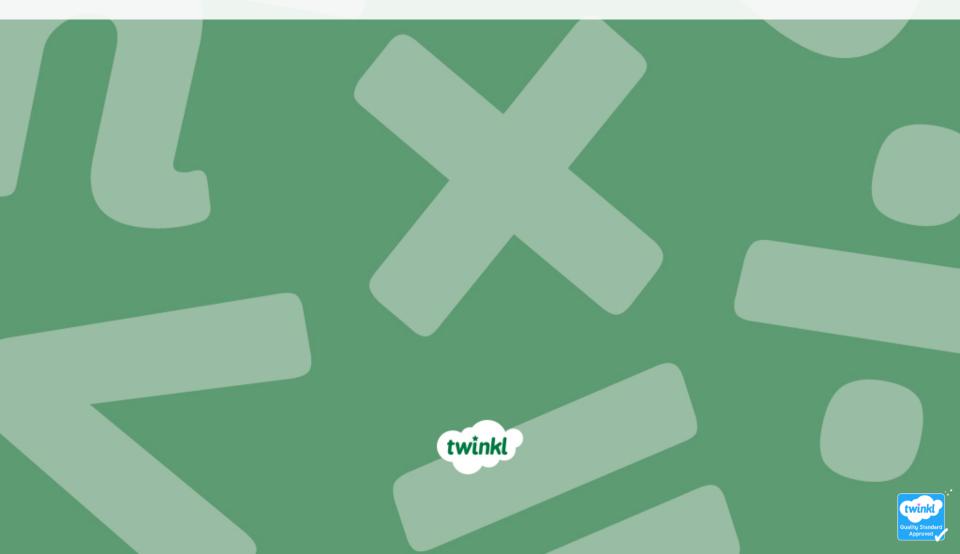
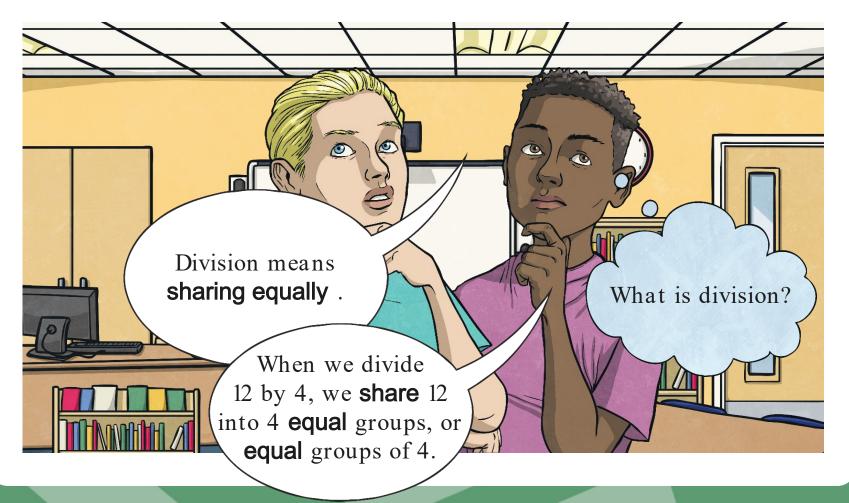
Troublesome Trains



What Is Division?

Discuss these questions with your partner:



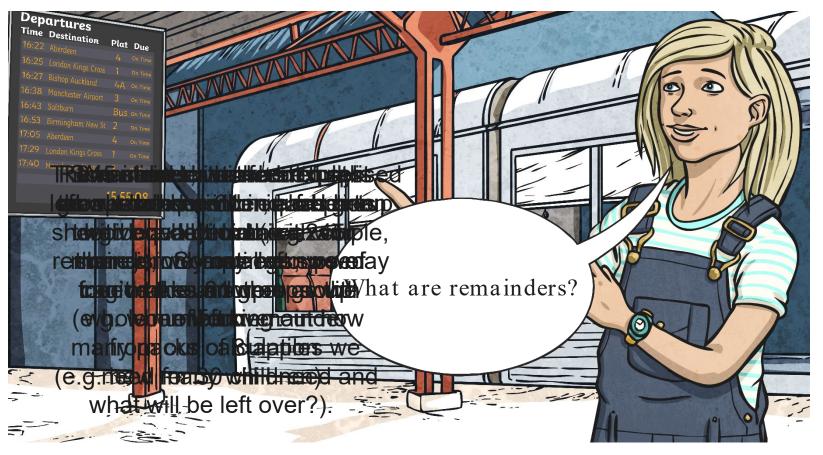
What Is Division?

Discuss these questions with your partner:



Solve this calculation:

 $245 \div 4 =$



Solve this calculation:

245 ÷ 4 =

245 shared into four equal groups makes 61 in each group with one left over, or 245 shared into equal groups of four makes 61 groups with one left over.

epartures

Time Destination Plat Du



Solve this calculation:

245 ÷ 4 =



Solve this calculation: 245 ÷ 4 =

Remainders are the bit that is left when the dividend has been shared equally. In this example, there is only one left so we can't make another group of four.

Time Destination Plat Di



Solve this calculation:

245 ÷ 4 =

The remainder can be expressed as a whole number, a fraction or a decimal.

Departures

Time Destination Plat Du



Solve this calculation: 245 ÷ 4 =

We need to think carefully about the question in order to decide what to do with our remainder. Sometimes, we may need to round up or down (e.g. when working out how many packs of 8 apples we need for 30 children).

Departures

Time Destination Plat Du



Solve this calculation: 245 ÷ 4 =

Sometimes, we need to split the remainder into equal parts to give a decimal (e.g. with money); we may even need to give the answers as the whole-number remainder from our calculation (e.g. how many will I need and what will be left over?).

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Time Destination Plat Due



Solve this calculation:

245 ÷ 4 =

245 shared into four equal groups makes 61 in each group with one left over, or 245 shared into equal groups of four makes 61 groups with one left over.

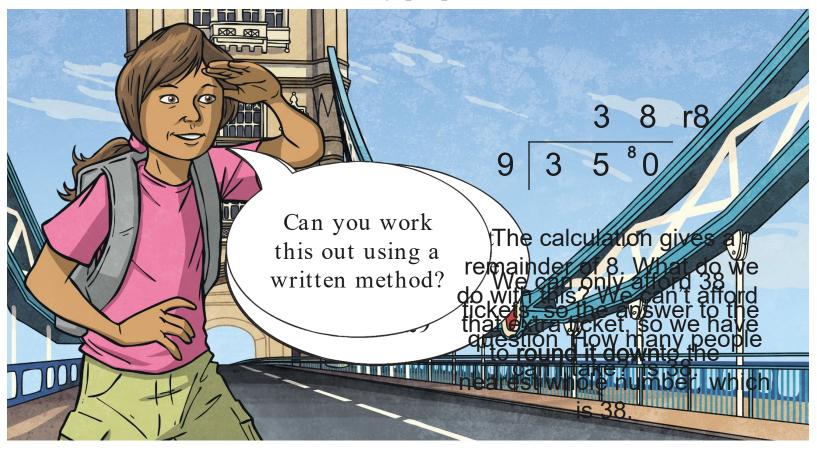
Departures

Time Destination Plat Due





I want to organise a trip to London with my youth club. My budget for the train tickets is $\pounds 350$. How many people can I take if each ticket is $\pounds 9$?





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3 8 r8 3

The calculation gives a remainder of 8. What do we do with this? We can't afford that extra ticket, so we have to **round it down** to the nearest whole number, which is 38.

I want to organise a trip to London with my youth club. My budget for the train tickets is £350. How many people can I take if each ticket is £9?

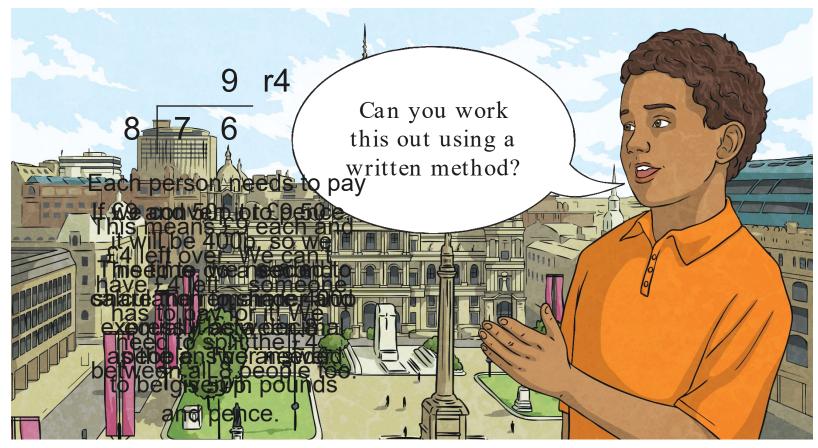


3 8 r8 3 5 ⁸0

We can only afford 38 tickets, so the answer to the question 'How many people can I take?' is 38.



In the summer holidays, I get a group discount for train tickets to Glasgow.



In the summer holidays, I get a group discount for train tickets to Glasgow.





In the summer holidays, I get a group discount for train tickets to Glasgow.

8

This means £9 each and £4 left over. We can't have £4 left – someone has to pay for it! We need to split the £4 between all 8 people too.





In the summer holidays, I get a group discount for train tickets to Glasgow.

8



If we convert it to pence, it will be 400p, so we need to do a second calculation to share 400p equally between 8 people. The answer is 50p.





In the summer holidays, I get a group discount for train tickets to Glasgow.

Each person needs to pay £9 and 50p or £9.50

This time, we needed to share the remainder and express it as a decimal as the answer needed to be given in pounds and pence.





I go to the buffet car to get snacks for all 15 of us.





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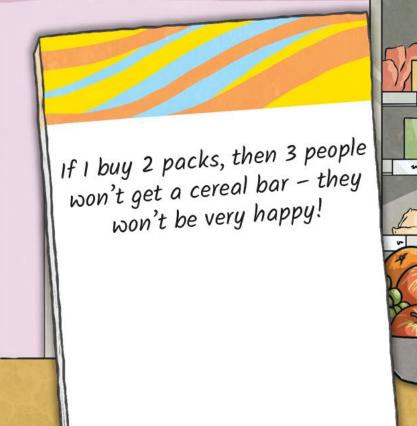
The calculation gives a remainder of 3.

What do we do with this?





I go to the buffet car to get snacks for all 15 of us.







I go to the buffet car to get snacks for all 15 of us.

This time, I need to round my remainder up and buy an extra pack. So the answer is: I will need to buy 3 packs.



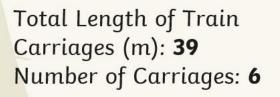


How long is each carriage on this train?





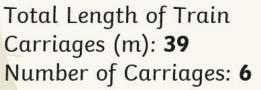
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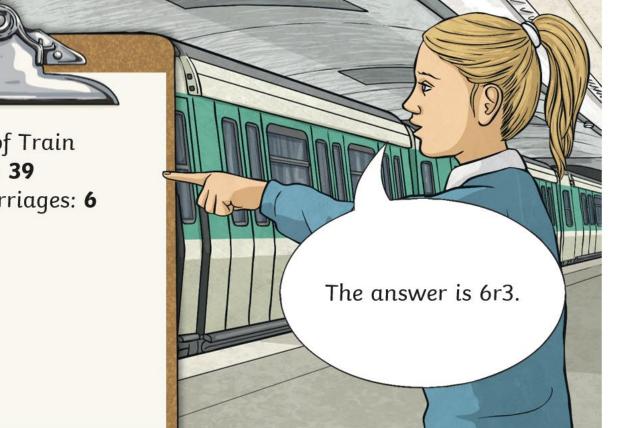


The question is asking me to work out how many 6s there are in 39. 39m ÷ 6 =



How long is each carriage on this train?







How long is each carriage on this train?

Total Length of Train Carriages (m): **39** Number of Carriages: **6**

The calculation has a remainder of 3. What do we do with this?





How long is each carriage on this train?

Total Length of Train Carriages (m): **39** Number of Carriages: **6**

If we convert it to centimetres, it will be 300cm so we need to do a second calculation to share 300cm equally between 6 carriages.





How long is each carriage on this train?

Total Length of Train Carriages (m): **39** Number of Carriages: **6**

The answer is: each carriage is 6.5m or 6 ½ metres. We can express the remainder as a decimal or fraction here.



