Short division: Day 3

Before we start, let's use our knowledge on bus stop method to answer some division questions.

1. There are **36** paint brushes in the cupboard and **3** pots. How many paint brushes should go in each pot?

2. There are **484** children in the school. They need to be split into **4** groups. How many children will there be in each group?

Today we are going to continue to learn about the bus stop method. Sometimes when you answer a short division question, the answer will have a remainder.

Watch this video up to 1:08 to find out more about remainders!

https://www.youtube.com/watch?v=FApcjdAhnr4

Now let's use what we know to help us work out **16÷5** using bus stop method.

Step 1: Put your numbers into their correct places in the bus stop like this

$$5 \,\big|\, 1\ 6$$

Step 2: We know for our next step we need to divide the number into the ten's column.

How many times does 5 go onto 1? It doesn't! So we put a zero above the 1 as a place holder.

$$\begin{array}{r|l} & 0 \\ \hline 5 & 1\ 6 \end{array}$$

Step 3: Now as there are no 5's in 1 we need to use the other numbers and work out how many times 5 goes into 16.

$$\begin{array}{r|rr} & 0 & 3 \\ \hline 5 & 1 & 6 \end{array}$$

5 goes into 16, 3 times so we write a 3 above the 6. However, there is one left over. This is our remainder.

Step 4: We can't just ignore our remainder. We have to include it in our working.

$$\begin{array}{r|rrr} & 0 & 3 & r\ 1 \\ \hline 5 & 1 & 6 & \end{array}$$

When were solving a problem and there is a remainder we write an 'r' followed by the remainder amount. In this case our remainder is 1 so we write a 1 after the 'r'.

So the answer to **16÷5 is 3 r 1.**

Let's practise! Have a go at these division questions:

1. 17÷ 3= 2.25÷ 4= 3.36÷ 5=

2.

Answers: 1.5 r2. 2.6 r1 3.7 r1

Once you have practiced these questions then you can start the party planning activity below.

Party Planning

I can solve multiplication and division problems.

1. Jin is making 5 party bags. How many of each item will he put in each bag? Remember, they need to be exactly the same.

28 stickers

In bag _____

Left over _____

44 sweets

In bag _____

Left over _____

32 felt tips

In bag _____

Left over _____

56 marbles

In bag _____

Left over _____

2. He can't decide between party hats and party poppers.

Which would have the fewest left over? _____

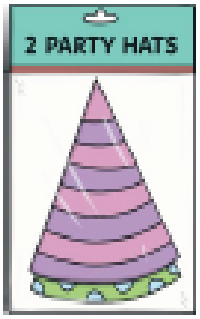
Explain your reasoning: _____

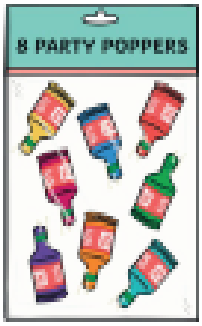
_____

_____

_____

_____





3. There are 14 people at his tea party. How many packets of each item does he need to buy so there is enough for everyone to have 1 of everything?

2 drinks

Packs _____

Left over _____

8 biscuits

Packets _____

Left over _____

4 cakes

Packets _____

Left over _____

12 paper cups

Packs _____

Left over _____

Party Planning

4. Jin might spend his birthday money on building bricks. He has £29. How many boxes of building bricks can he buy?

Boxes: _____

5. Or he may spend it on cars. How many cars can he buy?

Cars: _____

6. Which should he choose if he wants to have more money left over?

_____

Answers

1. Jin is making 5 party bags. How many of each item will he put in each bag? Remember, they need to be exactly the same.

28 stickers	44 sweets	32 felt tips	56 marbles
In bag 5	In bag 8	In bag 6	In bag 11
Left over 3	Left over 4	Left over 2	Left over 1

2. He can't decide between party hats and party poppers.

   Which would have the fewest left over? *party hats*

   Explain your reasoning: *He would need to buy 3 packs of hats which is 6 hats, so he would have 1 left over. 1 bag of party poppers would mean he had 3 left over.*

3. There are 14 people at his tea party. How many packets of each item does he need to buy so there is enough for everyone to have 1 of everything?

2 drinks	8 biscuits	4 cakes	12 paper cups
Packs 7	Packets 2	Packets 4	Packs 2
Left over 0	Left over 2	Left over 2	Left over 10

4. Jin might spend his birthday money on building bricks. He has £29. How many boxes of building bricks can he buy?

   Boxes: 14

5. Or he may spend it on cars. How many cars can he buy?

   Cars: 5

6. Which should he choose if he wants to have more money left over?
   Cars as he will have £4 left over.