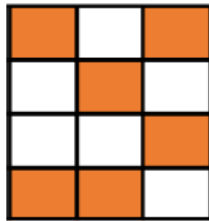


## Find a Half

### Reasoning and Problem Solving

Dora is asked to shade half of her shape.  
This is what she shades.



Is she correct? Explain why.

Yes because there are 12 squares altogether and 6 squares are shaded. 12 is the whole, half of 12 is 6

I am thinking of a number.  
Half of my number is more than 10 but less than 15.  
What could my number be?

22, 24, 26, 28

Annie has some gummy bears.

She circles half of them.



How many gummy bears did she have at the start?

Annie started with 16 gummy bears.

## Find a Quarter

### Reasoning and Problem Solving

Who has more? Explain why.



Rosie

I have  $\frac{1}{4}$  of £8



Whitney

I have  $\frac{1}{2}$  of £6

Whitney has more because half of £6 is £3, whereas a quarter of £8 is only £2

Eva says,



I have  $\frac{1}{4}$  because I have 4 marbles.

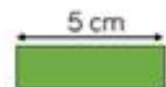


Do you agree? Explain why.

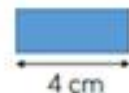
This is incorrect, one quarter means 4 equal groups not just 4  
One quarter of the marbles would be 5

Mo has two ribbons. He cuts  $\frac{1}{4}$  from each ribbon.

$\frac{1}{4}$  of ribbon A



$\frac{1}{4}$  of ribbon B



How long were Mo's whole pieces of ribbon?

Which ribbon was the longest? How much longer?

## Find a third

### Reasoning and Problem Solving

Annie has a piece of ribbon.



She cuts it into three equal parts.

One third of the ribbon is 6 cm long.

How long would half the ribbon be?

Half the ribbon would be 9cm.  
 $(6 \times 3 = 18\text{cm})$   
 Half of 18 = 9cm)

A bar model would be a particularly useful pictorial representation of this question.

Ron is thinking of a number.



One third of his number is greater than 8 but smaller than 12.

What could his number be?

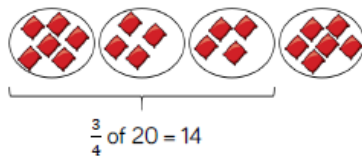
27, 30, 33

## Find Three Quarters

### Reasoning and Problem Solving

Amir is using beanbags and hoops to find three quarters of 20

Can you spot his mistake?



Amir hasn't created equal groups. 20 should be shared into 4 equal parts. There should be 5 beanbags in each hoop so three quarters of 20 is 15 not 14

Eva eats three-quarters of her sweets. She eats these sweets.



How many sweets does Eva have left?

Eva has 2 sweets left.  
 Encourage children to do this practically.