Problems of the Day *Day 19 Answers*

1 The diameter of a 10p coin is 24.5 mm.
The diameter of a 5p coin is 18 mm.
Some coins are laid out end to end.



What is the distance marked *b* in the diagram?

The line of 10p coins must be 24.5mm x 4 = 98mm

The line of 5p coins must be 18mm x 5 = 90mm

The distance *b* is the difference between 98mm and 90mm = **8mm**

2 Mrs Green bakes muffins.
She sells them in her shop.



- On Monday she bakes 200 and sells 70% of the them.
- On Tuesday she bakes twice as many muffins but has the same amount left.

What percentage of the muffins did she sell on Tuesday?

White

Many of you found this tricky.

There are three pieces of information for each of the two days – cakes baked, cakes sold and cakes left. I'd draw a table to keep track of the information. I've drawn the table and filled in everything I know.

Day	*Cakes made*	*Cakes sold*	*Cakes left*
Monday	200	70% of 200	30% of 200
Tuesday	2 x200		Same as above

I know 10% of 200 is 20

So 70% of 200 is 140

and 30% of 200 is 60

I can add this information to my table:

Day	*Cakes made*	*Cakes sold*	*Cakes left*
Monday	200	140	60
Tuesday	400		60

I know that 400 cakes were made on Tuesday and 60 were left. This means 340 were sold.

Day	*Cakes made*	*Cakes sold*	*Cakes left*
Monday	200	140	60
Tuesday	400	340	60

The question asks "What percentage were sold on Tuesday?"

Percentages are another way of expressing a fraction, so first I'll find out from my table the fraction sold:

340 out of 400 were sold = $\frac{340}{400}$

I know that $\frac{1}{100}$ = 1%

To write the fraction $\frac{340}{400}$ as a percentage I must find an equivalent fraction where the denominator is hundredths.

$\frac{340}{400} = \frac{\mathbf{85}}{\mathbf{100}}$ **= 85%**

<u>On Tuesday 85% of the cakes were sold</u>