

# Problems of the Day 2020



- 1 Use  $<$ ,  $>$  or  $=$  to make these number sentences correct.

$$5 \times 7 \bigcirc 40$$

$$6 \times 2 \bigcirc 7 \times 2$$

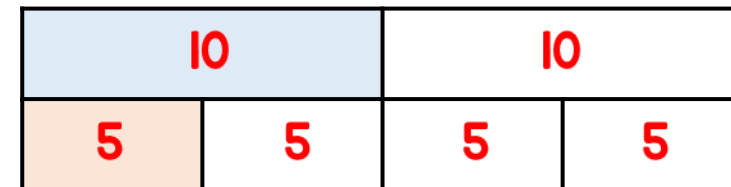
$$10 \div 2 \bigcirc 12 \div 2$$

- 2 There are 50 children in a school.  
15 of the children are girls.  
How many more boys than girls are in the school?
- $$50 - 15 = 35$$
- $$35 - 15 = 20$$
- There are 20 more boys than girls.

- 3 Mr Patel writes a number on the board.

- Lee finds  $\frac{1}{2}$  of the number.
- Kim finds  $\frac{1}{4}$  of the number.
- Lee's answer is 5 more than Kim's.

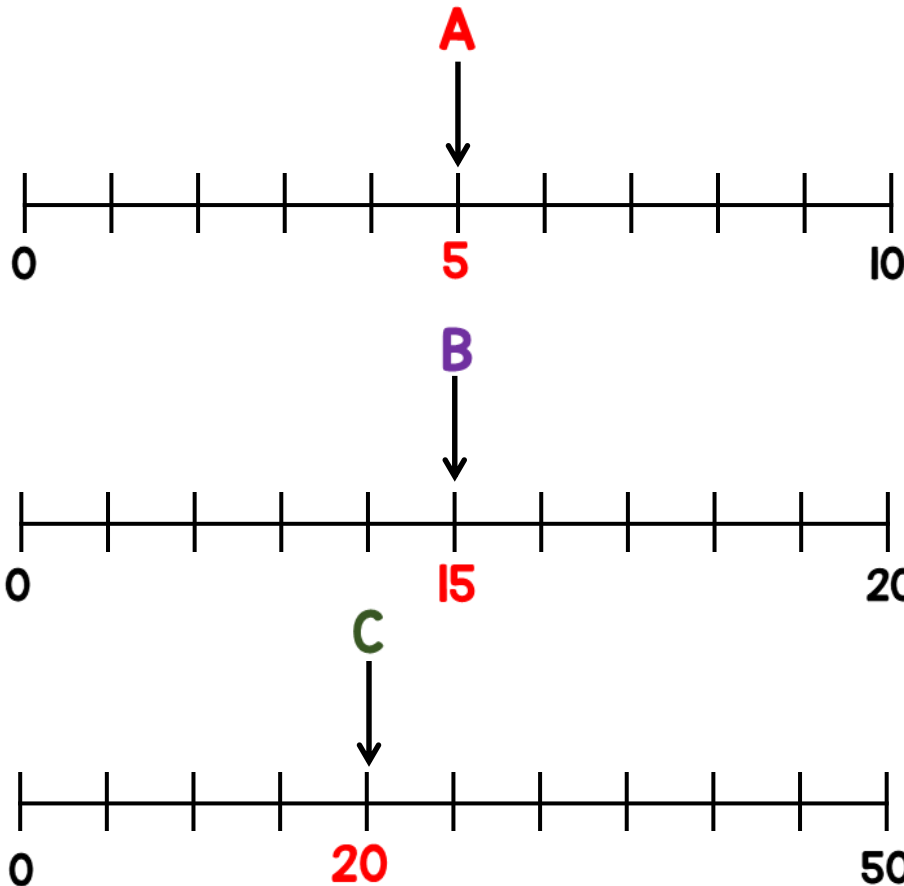
What is the number Mr Patel started with? This bar model may help you.



Mr Patel started with 20



- I** Given that  $A + B = C$   
Draw an arrow pointing to C



- 2** Amir has a box of 50 counters.  
12 of the counters are red.  
17 of the counters are blue.  
The rest of the counters are yellow.  
Which coloured counter are there more of?  
 $12 + 17 = 29$   
 $50 - 29 = 21$   
There are more yellow counters.

- 3**  When I share my stickers between me and my 4 friends, we all get 7 stickers.

How many stickers did Lisa share out?  
 $7 \times 5 = 35$   
Lisa shared 35 stickers.

- 1 Sam has £50  
He buys this cap and jumper with his money.



How much money does he have left?

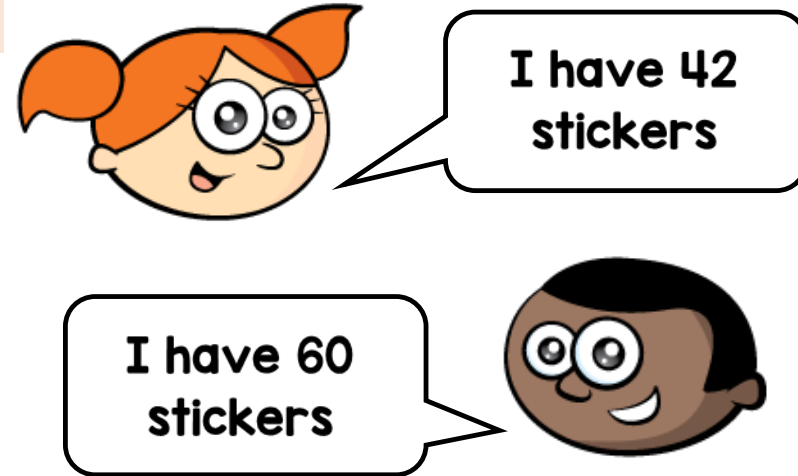
**Sam has £16 left.**

- 2 One half of a number is 6  
What is double the number?

$$6 \times 2 = 12$$
$$12 \times 2 = 24$$

**24 is double the number.**

3



Mo gives Alex some stickers.  
They now have the same number of stickers.

How many stickers does Mo give Alex?

$$60 - 42 = 18$$
$$18 \div 2 = 9$$

**Mo gives Alex 9 stickers.**

1 Which of these are equal to 15?

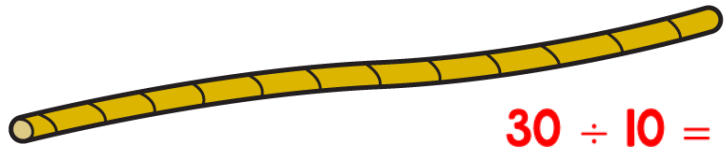
$$10 + 5$$

$$5 + 5 + 5$$

$$20 - 5$$

$$1 + 5$$

2 A rope measures 30 metres.



$$30 \div 10 = 3$$

$$3 \times 5 = 15$$

The rope is cut into 10 equal sized pieces.

What is the total length of 5 of these pieces?

**15 metres**

3 Danny has two boxes of sweets.



He puts the sweets into smaller bags.

There are 5 in  
each bag.



$$40 + 40 = 80$$

How many bags can Danny fill?

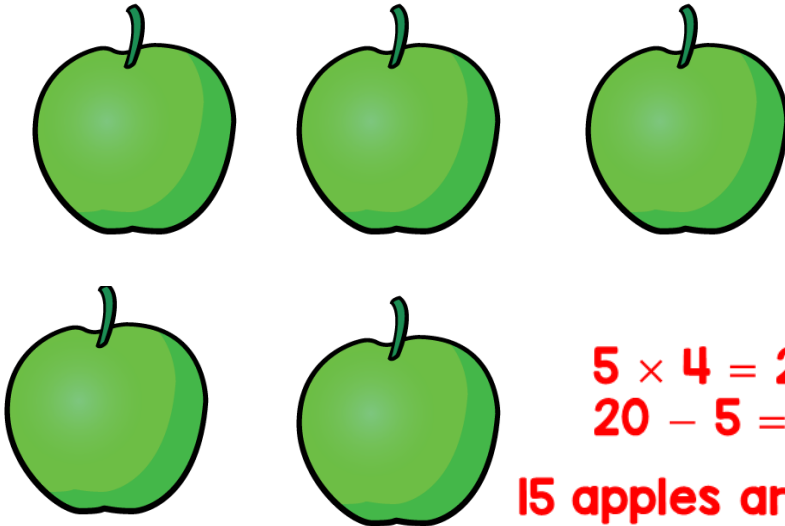
ts?

**Danny can fill 16 bags.**

1 In a box

- $\frac{1}{4}$  of the apples are green.
- The rest are red.
- There are 5 green apples.

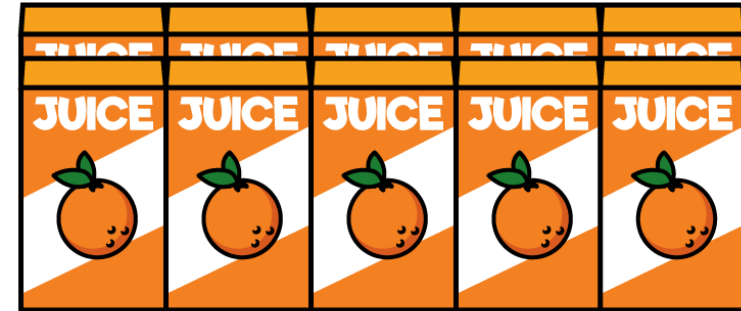
How many apples are red?



$$5 \times 4 = 20$$
$$20 - 5 = 15$$

15 apples are red.

2 Amir has 10 cartons of juice.



Each carton holds 2 litres of juice.

How much juice is in 7 cartons?

$$7 \times 2 = 14$$

7 cartons hold 14 litres of juice.

1 Here are 3 number patterns.

0	5	10	15	20	25	30
---	---	----	----	----	----	----

27	37	47	57	67	77	87
----	----	----	----	----	----	----

32	30	28	26	24	22	20
----	----	----	----	----	----	----

What is the sum of the three missing numbers?

$$25 + 47 + 24 = 96$$

2 Work out the value of each symbol.

$$\triangle q + \triangle q = 18$$

$$18 \div 2 = q$$

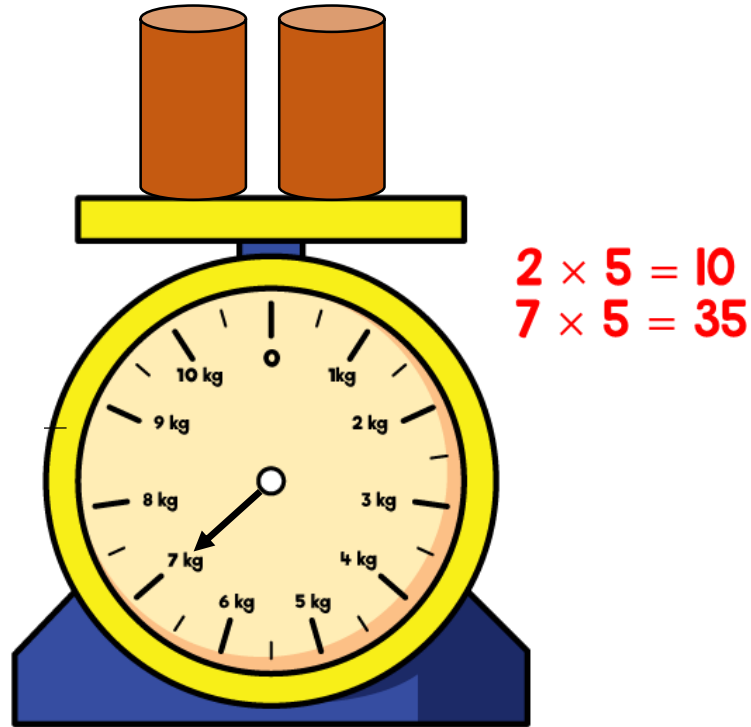
$$\triangle q + \diamond 21 = 30$$

$$30 - q = 21$$

$$\star 31 - \diamond 21 = 10$$

$$21 + 10 = 31$$

- 1 Mary measures the mass of 2 cylinders.



What is the mass of 10 of these cylinders? **35 kg**

- 2 Jack and Dora each have some money.



I spent half of my money.

I spent £12



They have the same amount left.

Dora spent £20

How much money did Jack have at the start?  **$20 + 12 = 32$**

**Jack had £32 at the start.**



- 1 Tim has two packs of pop.  
Each pack holds 24 cans.



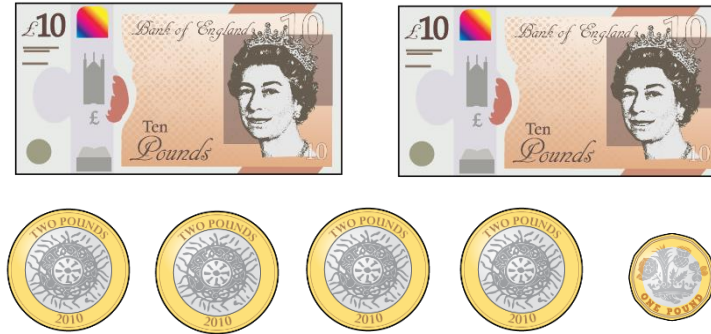
Sally has five smaller packs.  
Each of her packs holds 6 cans.



$$\begin{aligned} 24 \times 2 &= 48 \\ 5 \times 6 &= 30 \\ 48 - 30 &= 18 \end{aligned}$$

How many more cans of pop does  
Tim have? **Tim has 18 more  
cans of pop.**

- 2 Here is some money.



The money is shared between 5  
girls and 2 boys.

Each girl receives £3

How much money does each boy  
receive?

$$\begin{aligned} 5 \times 3 &= 15 \\ 29 - 15 &= 14 \\ 14 \div 2 &= 7 \end{aligned}$$

**Each boy receives £7**



1 Mo has six 5p coins.



He also has five 10p coins.



He buys this lolly.

How much money does  
he have left?

$$\begin{aligned} 6 \times 5 &= 30 \\ 5 \times 10 &= 50 \\ 50 + 30 &= 80 \\ 80 - 49 &= 31 \end{aligned}$$

Mo has 31p left.



2 Mrs Green bakes muffins.

She sells them in her shop.



- On Monday she bakes 30 and sells 18
- On Tuesday she bakes  $30 - 18 = 12$  twice as many muffins but has the same amount left.

How many muffins did she sell on Tuesday?

$$\begin{aligned} 30 \times 2 &= 60 \\ 60 - 12 &= 48 \end{aligned}$$

She sells 48 muffins on Tuesday.

1 Complete these number sentences.

$$5 + 5 + 5 + 5 = \boxed{4} \times 5$$

$$2 + 2 + 2 + 2 + 2 = \boxed{2} \times 5$$

$$10 + 10 + 10 = \boxed{6} \times 5$$

$$5 - 5 = \boxed{0} \times 5$$

2 Lou has 5 bananas.



Dan has 8 times as many.

$$5 \times 8 = 40$$

$$40 + 5 = 45$$

How many bananas do they have in total?

**They have 45 bananas in total.**

A bag contains 100 counters.

3 Susie takes out 26 counters.

Mark takes out 39 counters.

How many counters are left in the bag?

$$100 - 26 = 74$$

$$74 - 39 = 35$$

**There are 35 counters left in the bag.**