

Problem solving – fraction of a quantity ②

- ① Which is greater $\frac{1}{3}$ of 18, or $\frac{2}{9}$ of 36?



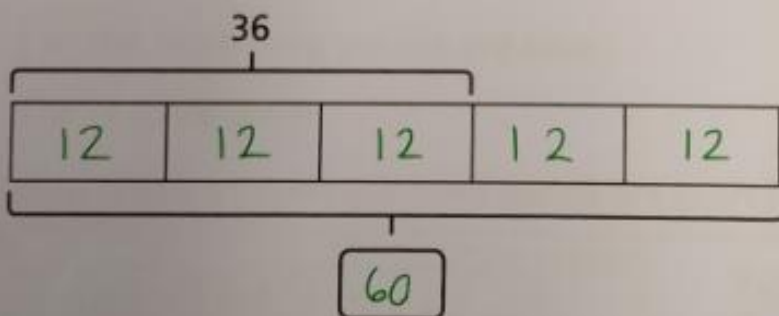
$\frac{2}{9}$ of 36 is greater.

$$18 \div 3 = 6 \quad \frac{1}{3} \text{ of } 18 = 6$$

$$36 \div 9 = 4 \quad 4 \times 2 = 8 \quad \frac{2}{9} \text{ of } 36 = 8$$

- ② Work out the missing values in these fraction strips.

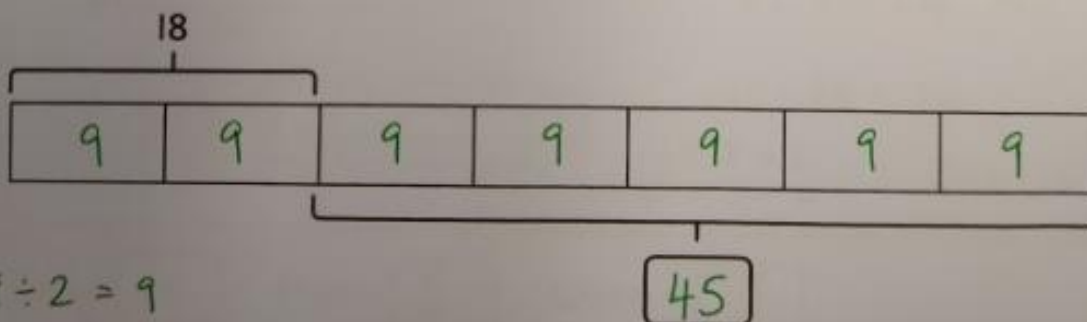
a)



$$36 \div 3 = 12$$

$$12 \times 5 = 60$$

b)



$$18 \div 2 = 9$$

$$9 \times 7 = 63 \text{ in total}$$

$$9 \times 5 = 45$$

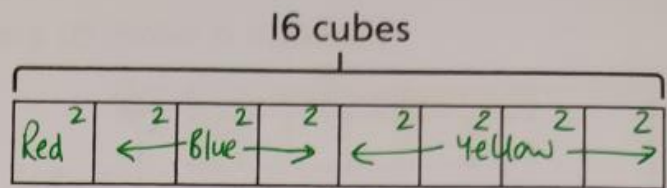
- 3 a) Mary has 16 cubes.

$\frac{1}{8}$ of the cubes are red.

$\frac{3}{8}$ of the cubes are blue.

The rest of the cubes are yellow.

How many of each colour cube are there?



Red: $\frac{1}{8}$ of 16 = $16 \div 8 = 2$

Blue: $\frac{3}{8}$ of 16 = $2 \times 3 = 6$

Yellow: $\frac{4}{8}$ of 16 = $2 \times 4 = 8$

Red = 2 Blue = 6 Yellow = 8

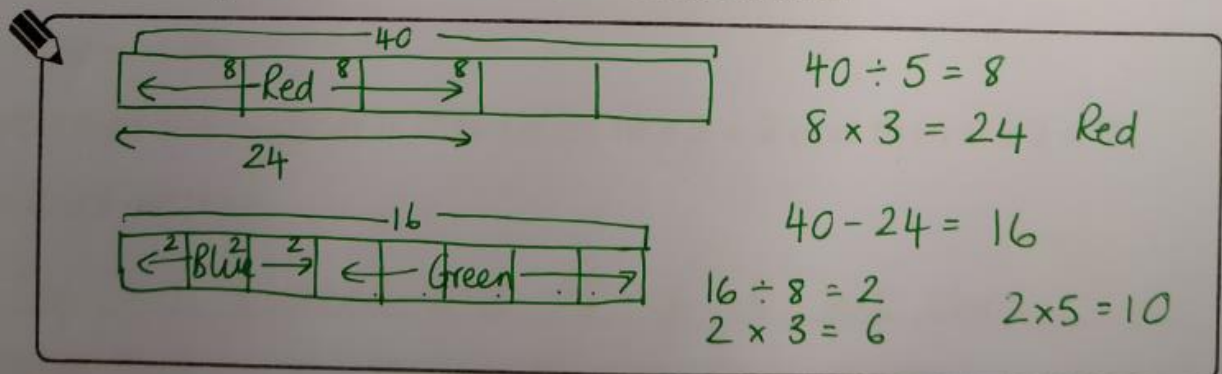
- b) Gino has 40 pencils.

$\frac{3}{5}$ of the pencils are red.

$\frac{3}{8}$ of the remaining pencils are blue.

The rest are green.

How many of each coloured pencil are there?



Red = 24 Blue = 6 Green = 10

- 4 Cailyn uses 18 place value counters to make a number.

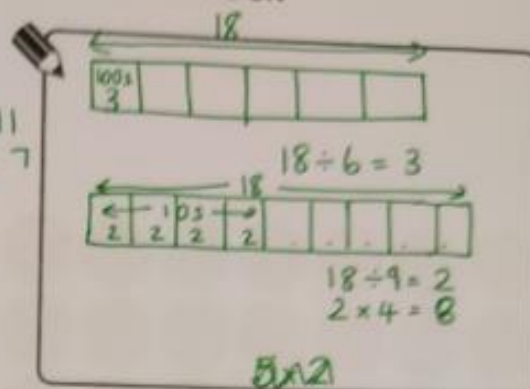
$\frac{1}{6}$ of the counters are 100s. 3

$\frac{4}{9}$ of the counters are 10s. 8

The rest of the counters are 1s. 7

What number has Cailyn made?

Cailyn has made the number **387**.



- 5 Find the missing numbers.

a) $\frac{3}{5}$ of 40 = $\frac{2}{3}$ of **36**

b) $\frac{3}{5}$ of 40 = $\frac{2}{5}$ of 60

CHALLENGE

$\frac{3}{5}$ of 40 = 24

$\frac{3}{5}$ of 40 =

$40 \div 5 = 8$

$24 \div 2 = 12$

$40 \div 5 = 8$

$24 \div 2 = 12$

$8 \times 3 = 24$

$12 \times 3 = 36$

$8 \times 3 = 24$

$12 \times \underline{5} = 60$

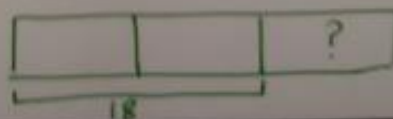
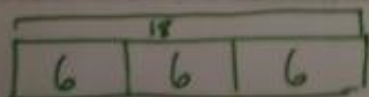
Reflect

$\frac{2}{3}$ of a number is 18.

Eva thinks that the number is 12 because $18 \div 3 = 6$ and then $6 \times 2 = 12$.

Explain Eva's mistake.

- She has worked out $\frac{2}{3}$ of 18 but the
- question says that 18 is $\frac{2}{3}$ of another number.
- She's done this: But she needed to do this:



$18 \div 2 = 9$
 $9 \times 3 = 27$