

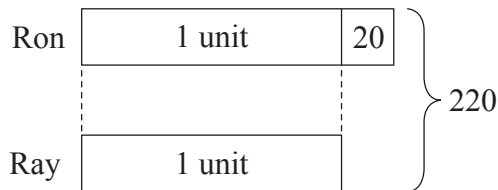
2-step Division

2-step Word Problems

Example 1

Ron and Ray had 220 stamps.
If Ron had 20 more stamps than Ray, how many stamps did Ray have?

Solution:

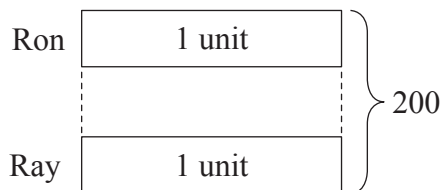


Since Ron had 20 more stamps, we can take away the 20 stamps in order to find the number of stamps each of them had equally. Therefore, the models are drawn as shown.

First, subtract 20 stamps from the total number of stamps:

$$220 - 20 = 200$$

Then, we can find the number of stamps each of them had:



2 units \rightarrow 200 stamps

1 unit \rightarrow ? stamps

$$200 \div 2 = 100$$

Ray had 100 stamps.

Working

First Step:

$$\begin{array}{r} 220 \\ - 20 \\ \hline 200 \end{array}$$

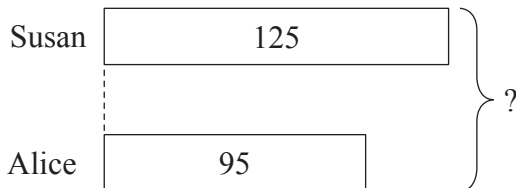
Second Step:

$$\begin{array}{r} 100 \\ 2 \overline{)200} \\ - 2 \\ \hline 00 \\ - 0 \\ \hline 00 \\ - 0 \\ \hline 0 \end{array}$$

Example 2

Susan had 125 ribbons and Alice had 95 ribbons.
 The number of ribbons Susan and Alice had was twice the number of ribbons Vivien had.
 How many ribbons did Vivien have?

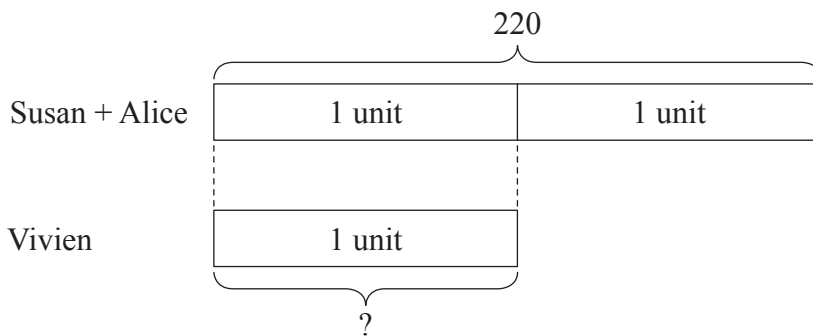
Solution:



First, find the number of ribbons Susan and Alice had:

$$125 + 95 = 220$$

Then, we can find the number of ribbons Vivien had.



$$2 \text{ units} \rightarrow 220 \text{ ribbons}$$

$$1 \text{ unit} \rightarrow ? \text{ ribbons}$$

$$220 \div 2 \text{ units} = 110$$

Vivien had 110 ribbons.

Since Susan and Alice had twice the number of ribbons Vivien had, Vivien would be represented by 1 unit, while Susan and Alice would be represented by 2 units. Therefore, the models are drawn as shown.

Working

First Step:

$$\begin{array}{r} \overset{1}{1} \overset{1}{2} 5 \\ + \quad 95 \\ \hline 220 \end{array}$$

Second Step:

$$\begin{array}{r} \overset{1}{2} \overset{1}{2} 0 \\ 2 \overline{) 220} \\ - \underline{2} \\ 02 \\ - \underline{2} \\ 00 \\ - \underline{0} \\ 0 \end{array}$$

Solve the following word problems using models.

Working

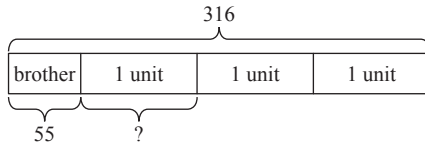
- 1** Evelyn baked 316 cookies.
She gave 55 cookies to her brother and divided the rest of the cookies equally among her 3 friends.
How many cookies did each of her friends receive?

- 2** Joseph had 340 stamps.
His sister gave him another 65 stamps.
He then decided to share all his stamps equally with his 8 friends.
How many stamps would each friend receive?

Solutions:

2-step Division

1.

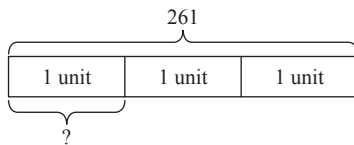


The 3 units represent 3 friends.

First, find the total number of cookies for the 3 friends:

$$316 - 55 = 261$$

Then, we can find the number of cookies each friend received:



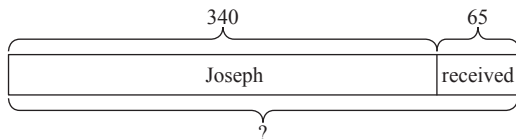
3 units \rightarrow 261 cookies

1 unit \rightarrow ? cookies

$$261 \div 3 = 87$$

Each friend received 87 cookies.

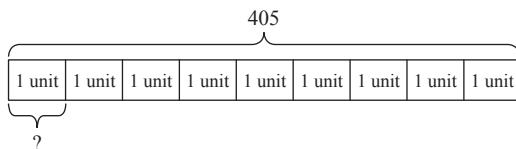
2.



First, find the total number of stamps Joseph had:

$$340 + 65 = 405$$

Then, we can find the number of stamps each of them would receive:



The 9 units represent the 8 friends and Joseph.

9 units \rightarrow 405 stamps

1 unit \rightarrow ? stamps

$$405 \div 9 = 45$$

Each friend would receive 45 stamps.

Adapted:

Conquer Model Drawing for Lower Primary Levels

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