

01

Mary cut a few pieces of string of length 5 cm each from a bundle. Later, she decided to cut the same number of pieces, but of length 4 cm each from the remaining string in the bundle. Altogether, she had cut 54 cm of the string. How many pieces of the string did she cut altogether ?

5 cm strings		4 cm strings		Both types
Number	Total length	Number	Total length	Total length
1	$5(1 \times 5)$	1	$4(1 \times 4)$	$5 + 4 = 9$ cm
2	$10(2 \times 5)$	2	$8(2 \times 4)$	$10 + 8 = 18$ cm
3	$15(3 \times 5)$	3	$12(3 \times 4)$	$15 + 12 = 27$ cm
4	$20(4 \times 5)$	4	$16(4 \times 4)$	$20 + 16 = 36$ cm
5	$25(5 \times 5)$	5	$20(5 \times 4)$	$25 + 20 = 45$ cm
6	$30(6 \times 5)$	6	$24(6 \times 4)$	$30 + 24 = 54$ cm

From the table

6 , 5 cm strings + 6 , 4 cm strings = 12 pieces

Method 2

One 5 cm piece + one 4 cm piece 9 cm

$$54 \div 9 = 6$$

There are 6 such groups or 6.5 cm pieces + 6.4 cm pieces

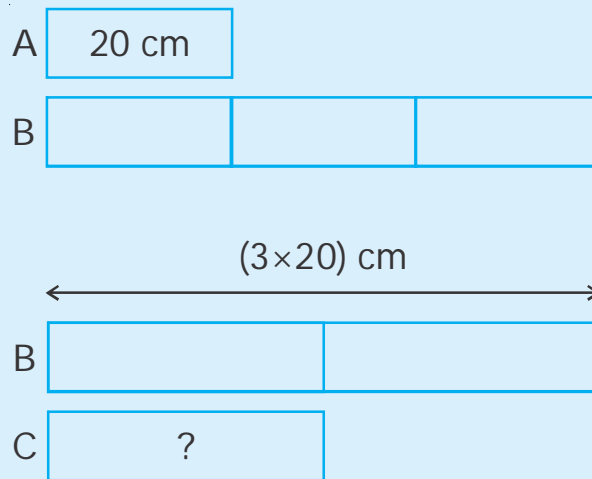
02

Rod A is $\frac{1}{3}$ as long as rod B. Rod C is $\frac{1}{2}$ as long as rod B. Rod

A is 20 cm long. Find the length of rod C. (Recall that $\frac{1}{3}$ is 1

out of 3 equal parts and $\frac{1}{2}$ is 1 out of 2 equal parts.

- (A) 20 cm (B) 30 cm (C) 60 cm (D) 10 cm



If rod B is 3 units long rod A will be 1 unit long

Hence length of rod B

$$\rightarrow 3 \times 20 = 60 \text{ cm}$$

The length of rod C is half of rod B, i.e., the length of rod C is half of 60 cm

$$60 \div 2 = 30 \text{ cm}$$

The length of rod C is 30 cm

03

Mrs. Taruni had 2025 cm of cloth. She made 2 identical dresses using 420 cm of cloth for each dress.

- (A) How much cloth was left after she made the 2 dresses ? Give your answer in metres and centimetres.
- (B) At least how much more cloth must she buy in order to make 3 more dresses of the same type ? Give your answer in centimetres.

(A) 1 dress \rightarrow 420 cm of cloth

2 dresses \rightarrow $420 + 420$

= 840 cm of cloth

$2025 - 840 = 1185$ cm

11 m 85 cm

11 m 85 cm of cloth was left.

(B) 3 dresses \rightarrow 3×420

= 1260 cm of cloth

1260 cm of cloth were needed for 3 dresses

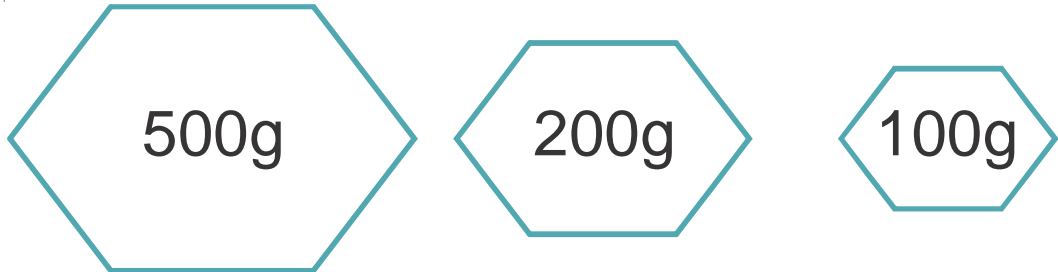
1185 cm of cloth was left

$1260 - 1185 = 75$ cm

She must buy at least 75 cm more cloth

04

Kajal had four pieces of each type of the following weights.



She can use these weights to weigh items on a weighing scale. Kajal wants to measure exactly 1 kg 400g of flour, using at least one piece of each type of the weights shown above. How many ways can she do this ?

$$1 \text{ kg } 400\text{g} = 1400 \text{ g}$$

We will use the 'guess and check' method while keeping in mind that we need to have at least one type of each weight

Possible options;

$$(1) \quad 2 - 500 \text{ g} + 1 - 200 \text{ g} + 2 - 100 \text{ g}$$

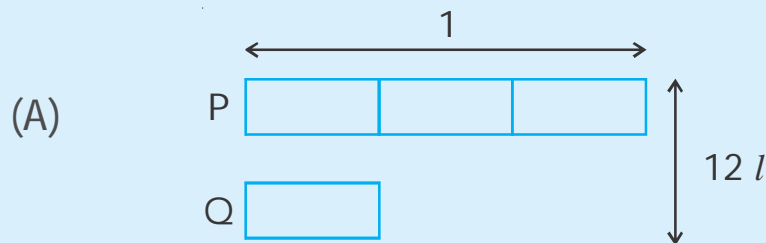
$$(2) \quad 1 - 500 \text{ g} + 3 - 200 \text{ g} + 3 - 100 \text{ g}$$

$$(3) \quad 1 - 500 \text{ g} + 4 - 200 \text{ g} + 1 - 100 \text{ g}$$

She can do this in 3 ways

05 The volume of water in container P is 3 times the volume of water in container Q. Containers P and Q together have 12 l of water. Container R has 1350 ml less water than container P.

- (A) Find the volume of water in container P in millilitres.
(B) What is the capacity of container R if 1400 ml more water is required to fill it completely ?



$$4 \text{ units} \rightarrow 12 \text{ l}$$

$$1 \text{ unit} \rightarrow 12 \div 4$$

$$3 \text{ units} \rightarrow 3 \times 3$$

$$= 9 \text{ l}$$

$$= 9000 \text{ ml}$$

The volume of water in container R $\rightarrow 9000 - 1350$

$$= 7650 \text{ ml}$$

(B) Volume of water in container R

$$\rightarrow 9000 - 1350$$

$$= 7650 \text{ ml}$$

The capacity of container R is 9050 ml