NCERT Solutions for Class 4 Maths Chapter 9: Fractions are introduced to students in Class 4 Maths, NCERT textbook chapter 9, Halves and Quarters. It clarifies the fundamental concept of splitting a whole into equal portions, like thirds, halfs, and quarters. Students are taught fraction recognition, representation, and comparison through hands-on activities such as dividing fruits, shapes, and other items.

To assist students, in learning how to divide and distribute things fairly, NCERT Solutions for Class 4 Maths Chapter 9 also discusses how fractions are used in everyday life. Students get a solid foundation in comprehending and applying simple fractions through interesting activities and exercises.

NCERT Solutions for Class 4 Maths Chapter 9 Overview

The goal of NCERT Solutions for Class 4 Maths Chapter 9 Halves and Quarters is to help kids advance their comprehension of fractions. Students learn about dividing a whole into equal parts in this chapter that is, into halves (1/2), quarters (1/4), and thirds (1/3). By giving instances from everyday life, such as chopping fruits, splitting shapes, or distributing items equally, it highlights practical applications.

Problems involving the recognition, comparison, and identification of fractions in various forms such as divided items or shaded areas of geometric figures are included in this chapter. Additionally, it introduces the concept of equivalent fractions, which are fractions that may be created by combining or dividing parts. Students improve their capacity to think critically about how to divide and share things equitably by working through a range of issues.

NCERT Solutions for Class 4 Maths Chapter 9 Halves and Quarters

Below we have provided NCERT Solutions for Class 4 Maths Chapter 9 Halves and Quarters -

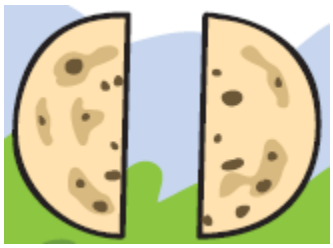
Half – Half

Question: 1

If the cat asks you to divide the chapati equally, how will you divide it?

Answer:

The chapati will be folded into two equal halves, which I will then separate from the creased line. The chapati is now half done.



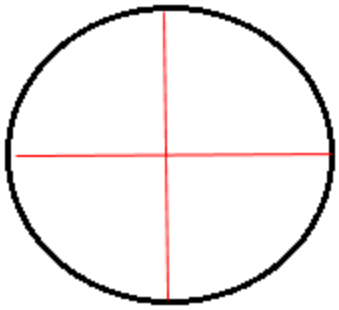
Half of Half

Question: 2

If two more cats come for food, how will you divide one chapatti equally for four cats?

Answer:

Split the chapatis into two parts first. Divide it into two more pieces once more. Lastly, as seen below, I shall separate the chapatti from the creased line:



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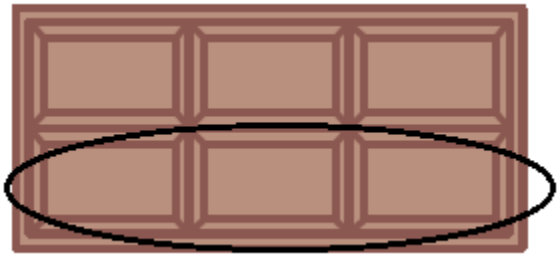
Half of Many Pieces

Rani got a chocolate. She divided it equally and gave half to her friend Reena.

Question: 3

(a) Circle the portion that Reena got.

Answer:



(b) How many pieces of chocolate are there?

Answer: There are six pieces of chocolate in total.

(c) How many pieces were left with Rani?

Answer:

Rani gave her buddy Reena half of her chocolate. Rani was so left with three chocolate pieces.

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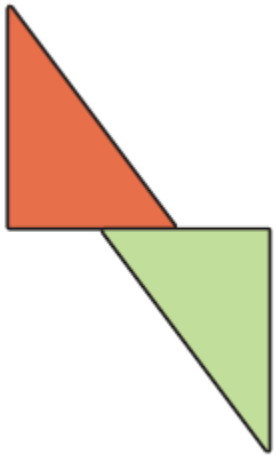
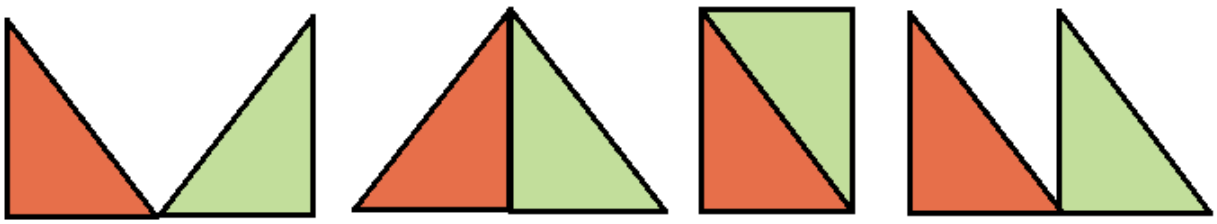
Many Shapes from a Half Sheet

Question: 4

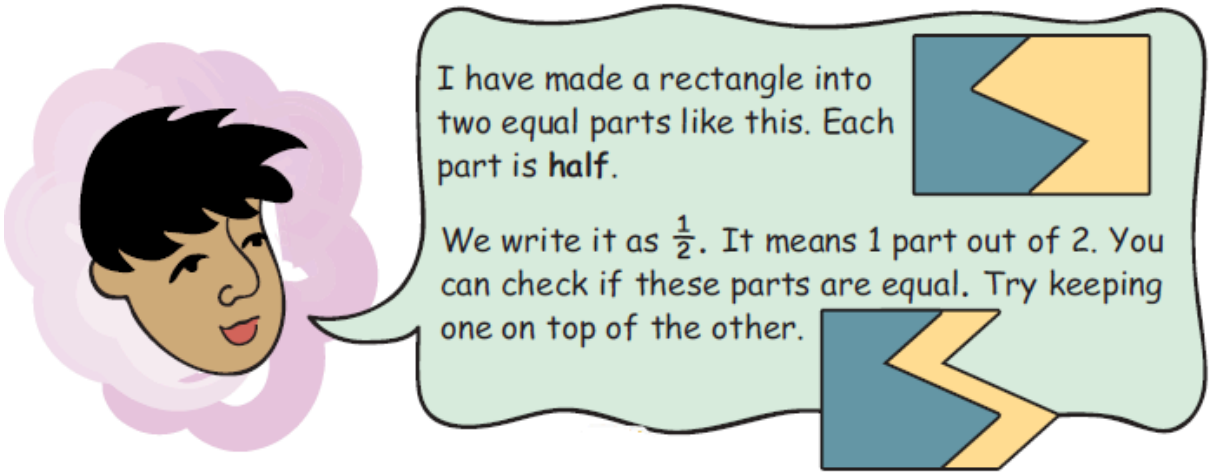
Draw different shapes using these triangles. One such shape is shown here.



Answer: Shapes using these triangles are shown below:



Many Ways to Cut into Half



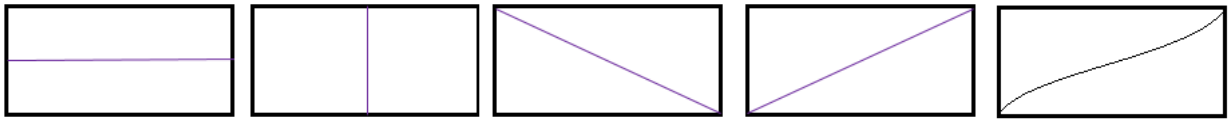
Question: 5

In how many different ways can you cut a rectangle into half? Draw 5 different ways. Can you check if they are equal?

Answer:

The following illustrates a rectangle in five different manners.

The rectangle's parts are all equal since they line up precisely with one another.

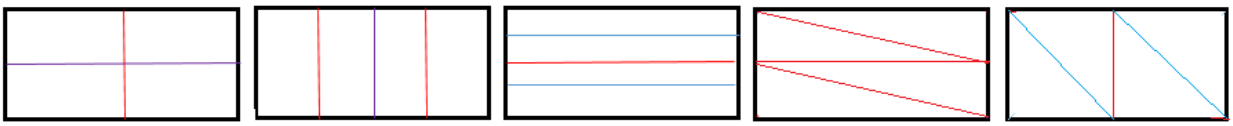


Question: 6

In how many different ways can you cut a rectangle into four equal parts? Draw five different ways. Can you check if they are equal?

Answer:

Below is a rectangle that has been divided into four equal sections. Since every part precisely matches the other three parts, the answer is yes, they are equal.



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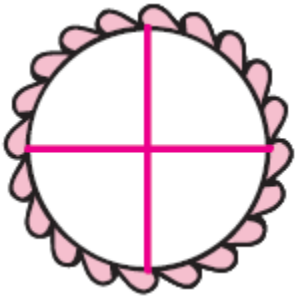
Cutting the Cake

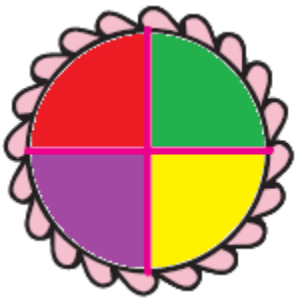
Rajni's father brought a cake. She divided the cake into 4 equal parts – for herself, her brother Raju, her father and her mother.

Question: 7

Colour each share with different colours.



Answer:



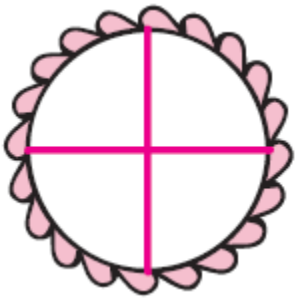
Question: 8

How much does each get?

Answer: Each get 1/4 of the cake.

Question: 9

Mother gave her share of the cake to Rajni. Now, colour the total part that Rajni will get.



Answer: Each person gets 1/4 of the cake. So,

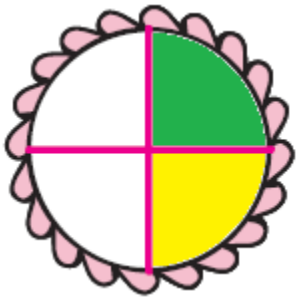
The cake that Rajni got = her share + her mother's share

= 1/4 + 1/4

= 2 / 4

= 1 / 2

Hence, Rajni got 1/2 part of the cake.



Question: 10

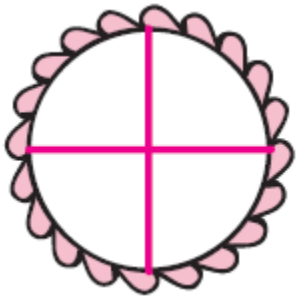
Out of 4 parts, Rajni will get _____ parts, which is equal to half of the cake.

So, she can write it as ____ /4 or 1/2

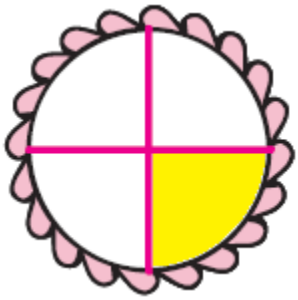
Answer: Rajni gets 2 parts of cake out of 4 parts. Hence, she can write it as 2/4 or ½.

Question: 11

Colour the share Raju got.

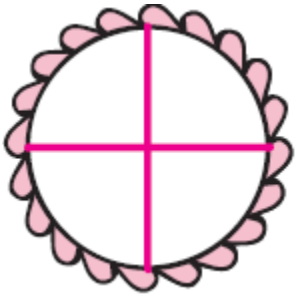


Answer: The shaded part shows 1/4 part of the cake, which Raju has got.

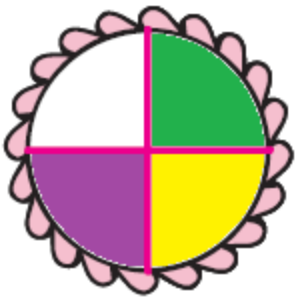


Question: 12

How much of the cake do Rajni and Raju together get? Colour their total share.



Answer: The total cake together Rajni and Raju got is 3/4



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Greedy Kundu

Kundu is a greedy man. Whenever he goes to the market, he wants to get more and more but doesn't want to spend much money.

One day he wants to eat pumpkin *halwa* (sweet dish). He tries to buy a big pumpkin with only Rs10. He asks the first pumpkin seller the price of a big pumpkin.

First pumpkin-seller — $\frac{1}{4}$ of this pumpkin is for Rs 10.

Question: 13

The full pumpkin will cost Rs. _____

Answer: Cost of 1/4 pumpkin = Rs. 10

Cost of one pumpkin = Rs 10 ÷ 1/4

= 10 × 4

= 40

Hence, the cost of one pumpkin = Rs. 40.

Kundu — Eh! For Rs 10, you should give me $\frac{1}{2}$ of this pumpkin.

First pumpkin-seller — Then you go to the next seller, he can give you $\frac{1}{2}$ of such a big pumpkin for Rs 10. I keep only good quality pumpkins.

Kundu walks to the next seller and looks for a pumpkin of the same size.

Question: 14

Kundu, how much of this pumpkin will I get for Rs 10? The second pumpkin seller told him half.

This full pumpkin will cost Rs. _____

Answer: The cost of half a pumpkin = Rs. 10

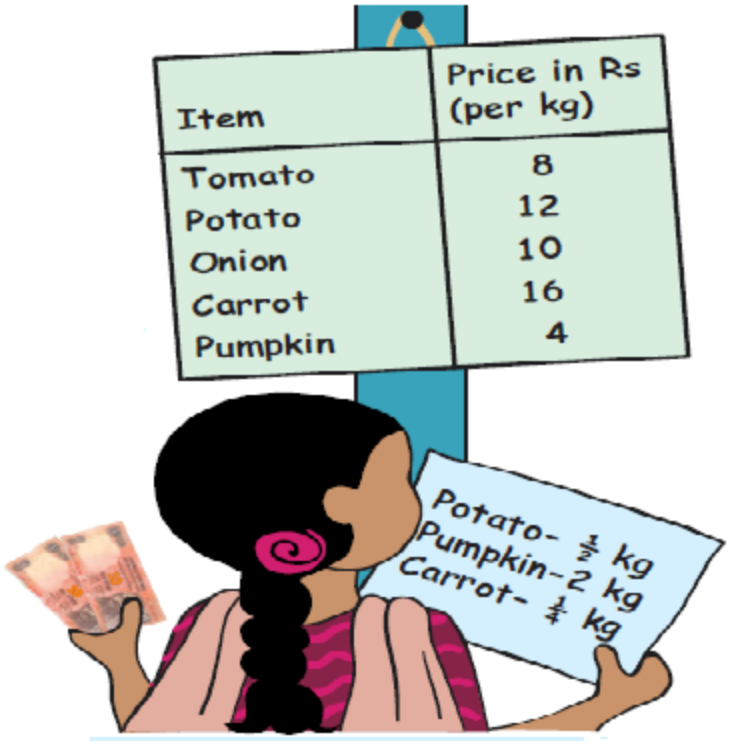
So, the cost of full pumpkin = Rs. 10 + Rs. 10

= Rs. 20

Therefore, the cost of one full pumpkin is Rs. 20.

NCERT Book Page No: 100

Using a Price List



Question: 15

(a) How much does 1/2 kg of tomatoes cost?

Answer: The cost of 1 kg tomato = Rs. 8

Hence, the cost of 1/2 kg tomato = Rs. 8 / 2

= Rs. 4

Therefore, the cost of 1/2 kg tomatoes = Rs. 4

(b) Which costs more – 1/2 kg of onions or 1/4 kg of carrots?

Answer: The cost of 1 kg onion = Rs. 10

Therefore, the cost of 1/2 kg onion = 10 / 2

= Rs. 5

The cost of 1 kg carrot = Rs. 16

Hence, the cost of 1/4 kg carrot = 16 / 4

= Rs. 4

Hence, the cost of 1/2 kg of onions is more than the cost of 1/4 kg of carrots.

(c) What is the price of 3/4 kg of potatoes?

Answer: The cost of 1 kg of potatoes = Rs. 12

The cost of 3/4 kg of potatoes = Rs. 12 × 3/4

= Rs. 36/4

= Rs. 9

Therefore, the cost of 3/4 kg of potatoes = Rs. 9

(d) Keerthi is going for shopping. She has only Rs. 20 with her. Can she buy all the things on her shopping list?

Answer: Total money Keerthi has = Rs. 20

Her shopping list includes = 1/2 kg potatoes, 2 kg pumpkin and 1/4 kg carrots.

Cost of 1 kg potatoes = Rs. 12

Cost of 1/2 kg potatoes = Rs. 12 / 2

= 6

Cost of 1 kg pumpkin = Rs. 4

Cost of 2 kg pumpkin = Rs. 4 × 2

= Rs. 8

Cost of 1 kg carrot = Rs. 16

Cost of 1/4 kg carrot = Rs. 16/4

= Rs. 4

Total cost of all the vegetables = 6 + 8 + 4

= Rs. 18

Hence, Keerthi can buy all the vegetables on her shopping list.

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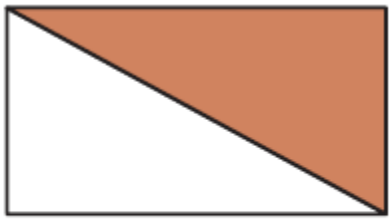
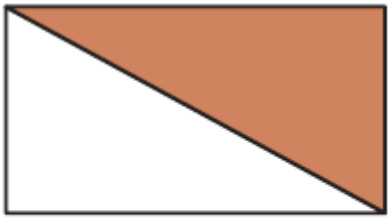
Practice Time

Question: 16

(a) What part of the whole is coloured? Write below each shape.



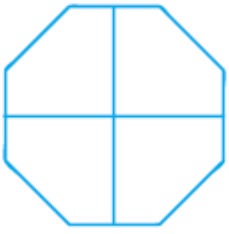
Answer:



1/2

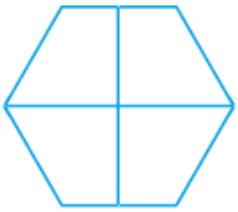
2/4

(b) Colour that part of the shape which is written below.

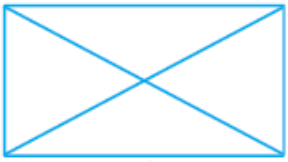


$\frac{1}{2}$

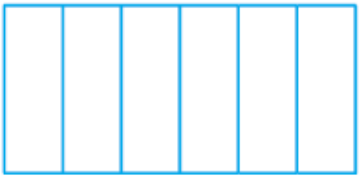
$\frac{3}{4}$



$\frac{3}{4}$



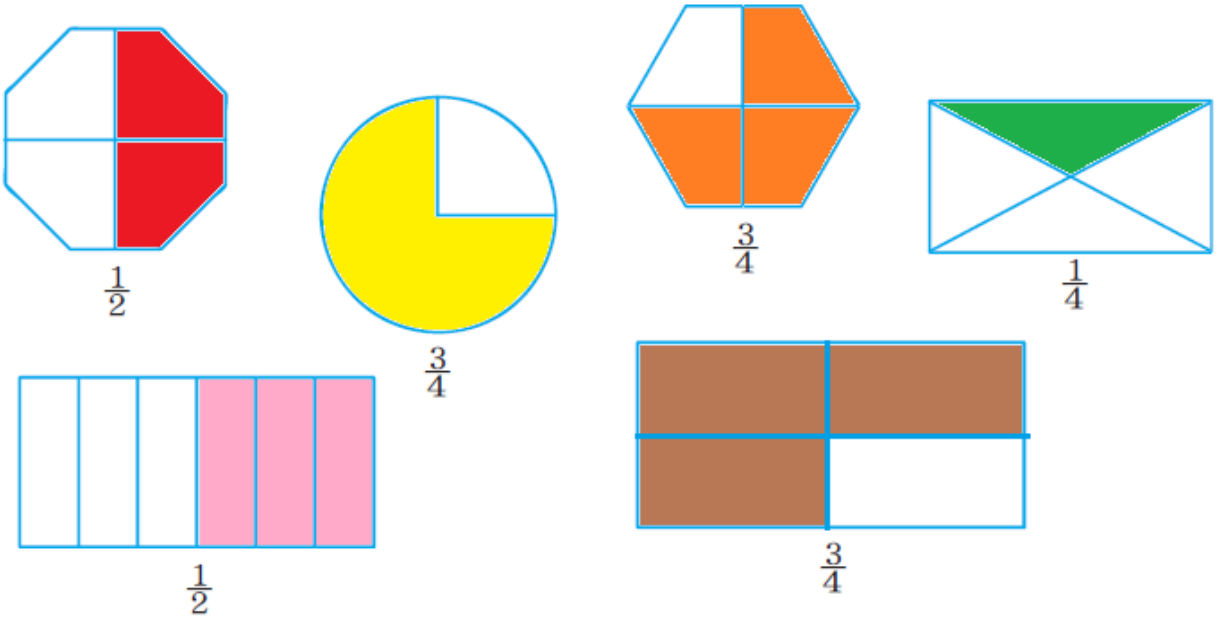
$\frac{1}{4}$



$\frac{1}{2}$

$\frac{3}{4}$

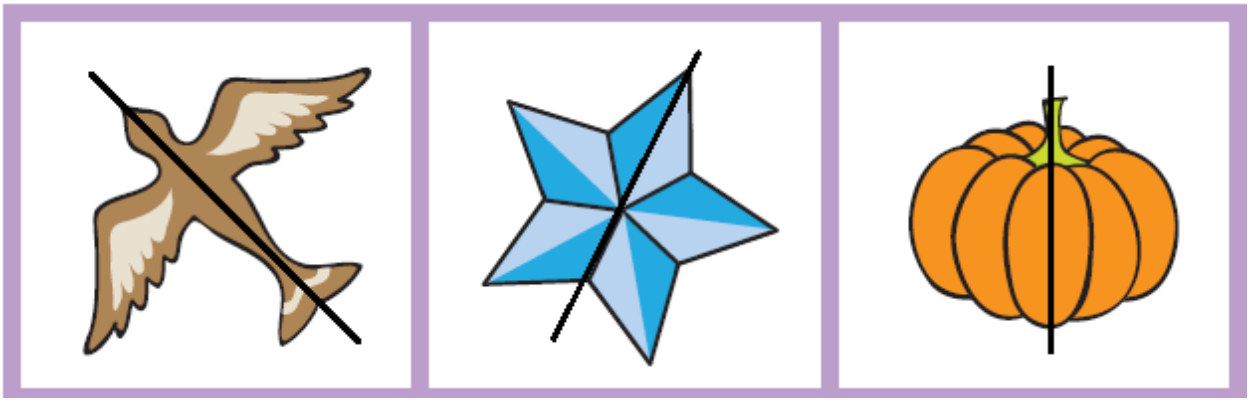
Answer:



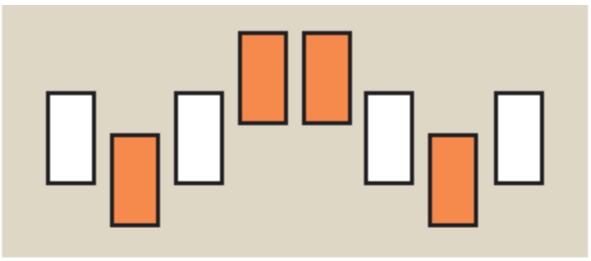
(c) Cut in half

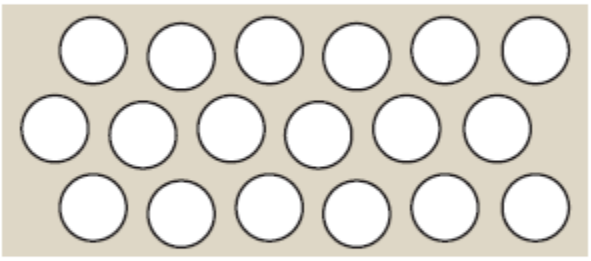
Draw a line which divides the below shapes into half.

Answer:

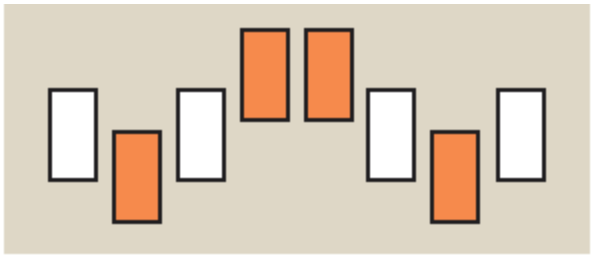


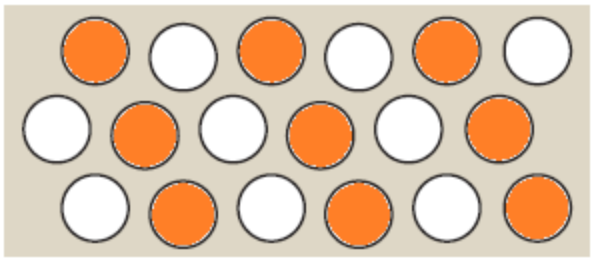
(d) Colour half the number of shapes as shown here.

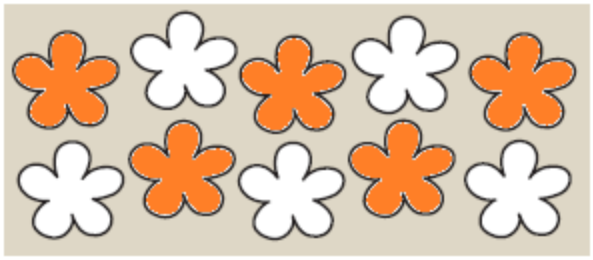




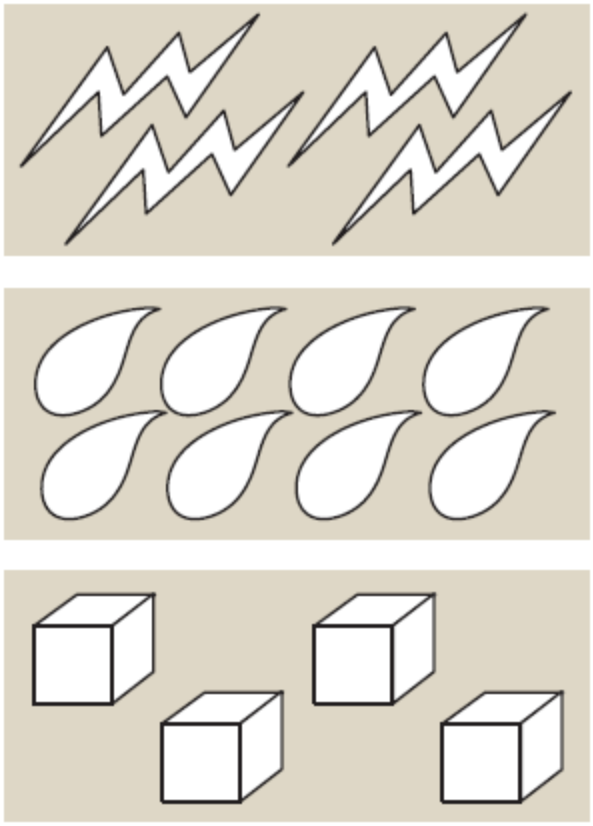
Answer:



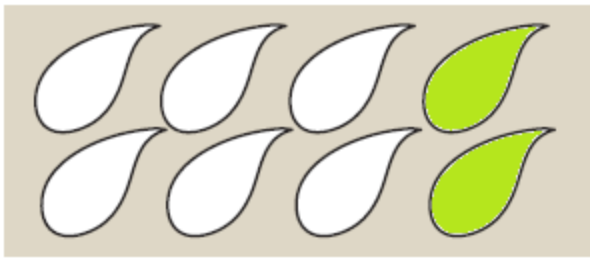


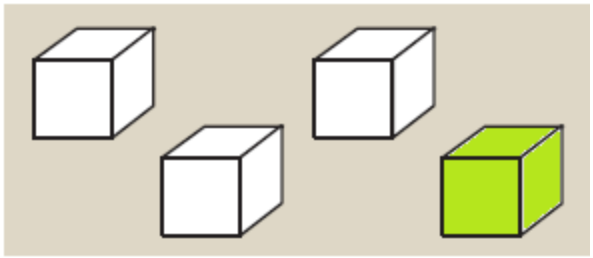


(e) Colour 1/4 of these shapes.

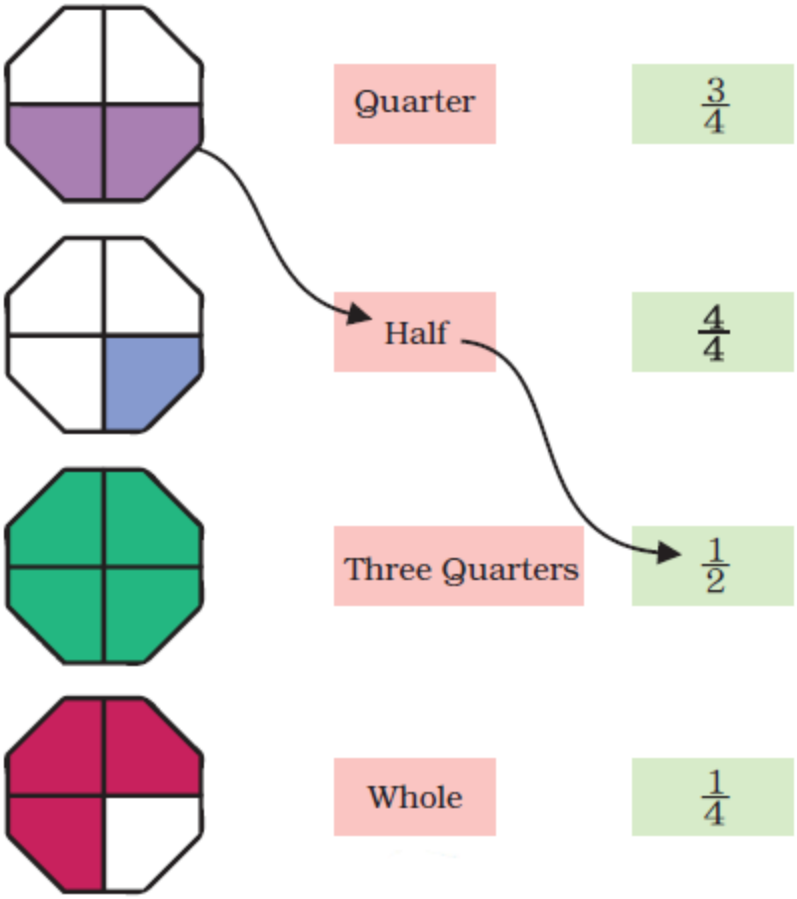


Answer:

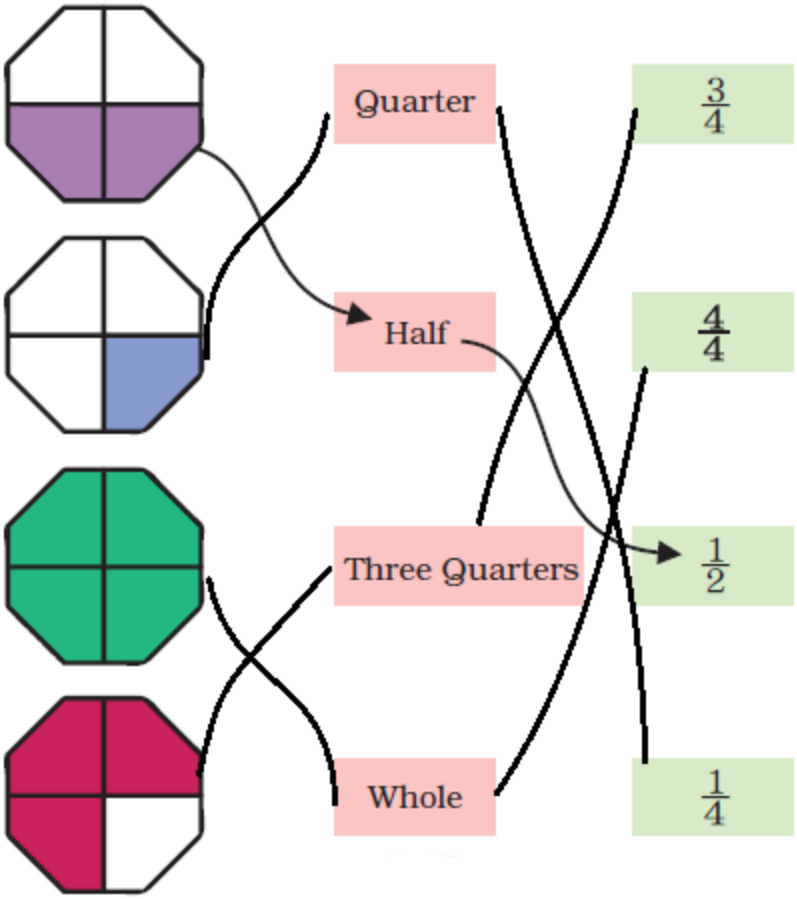




(f) Match the coloured part as shown.


Quarter
$\frac{3}{4}$
Half
$\frac{4}{4}$
Three Quarters
$\frac{1}{2}$
Whole
$\frac{1}{4}$

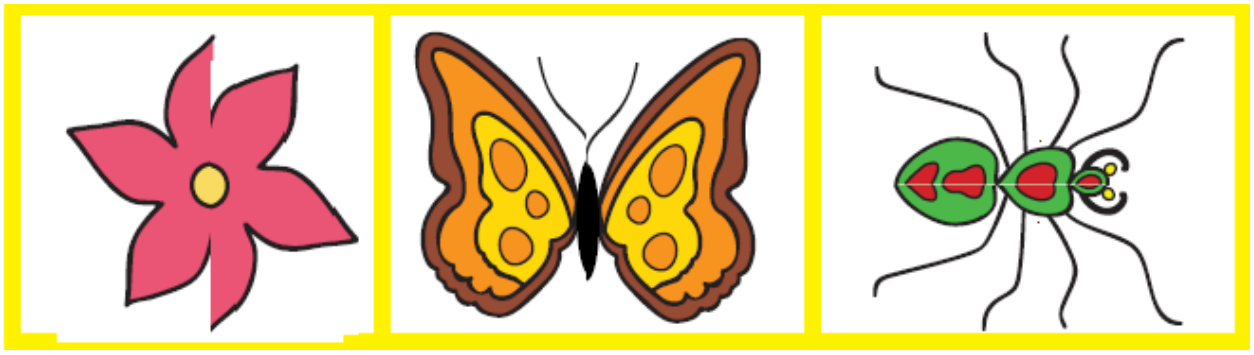
Answer:



(g) Make the other half

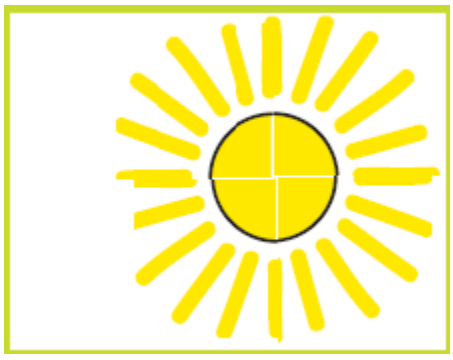
1/2 of the picture is drawn here. Can you complete the picture by drawing the other half?

Answer:



(h) This is a quarter of a picture. Can you complete it? How many more quarters will you draw to complete it?

Answer:



To complete the picture, three more quarters are required.

i.e, half and a quarter of a metre

Using your metre scale, cut a string of one metre.

On this string, mark the length 1/2 metre, 1/4 metre and 3/4 metre.

Using your string, draw a line of length ½ metre on the floor.

Question: 17

How many centimetres long is the line?

Answer: We know

1 m = 100 cm

1/2 m on the floor = 100 cm ÷ 2

= 50 cm

Hence, 1/2 m on the floor = 50 cm long

Question: 18

So,

1/2 metre = …….. cm

1/4 metre = …….. cm

3/4 metre = …….. cm

Can you see that when we add 1/2 and 1/4, we get 3/4?

Answer:

1/2 metre = 100 × 1/2

= 50 cm

1/4 metre = 100 × 1/4

= 25 cm

3/4 metre = 100 × 3/4

= 75 cm

Now, adding 1/2 and 1/4, we get

1/2 + 1/4 = (2 + 1)/4

= 3/4

Hence, on adding 1/2 and 1/4, we get 3/4.

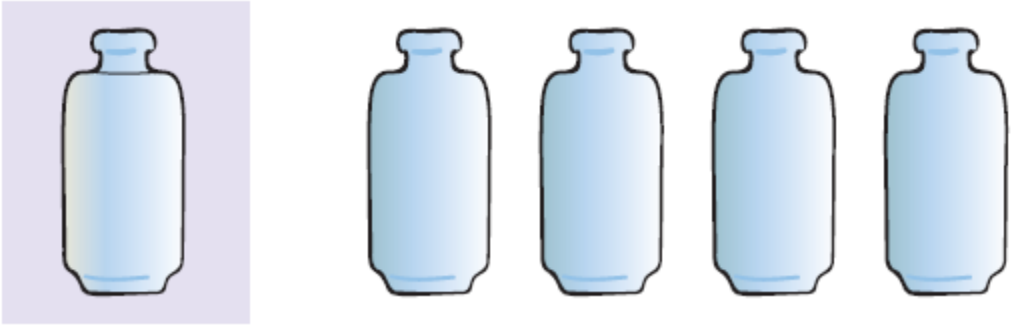
NCERT Book Page No: 104

Sharing Milk

A bottle is full of milk, and it holds one litre. The milk is put into 4 other bottles so that each bottle has 1/4 litre of milk.

Question: 19

Shade the bottles to show the level of milk in each.



Answer:

The shaded portion shows the level of milk marked in the figure given below

Question: 20

How many millilitres of milk does each bottle have?

Answer:

We know,

1 litre = 1000 millimetres

Each bottle contains = 1/4 litre of milk

Hence, each bottle contains = 1000 mL ÷ 4

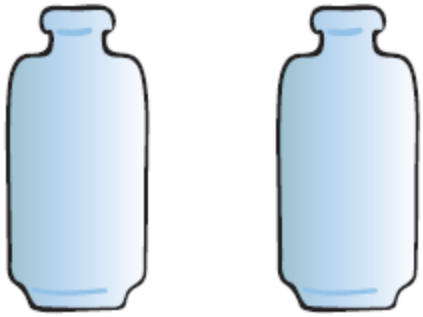
= 250 mL of milk.

Question: 21

Shan poured 1 litre of milk into two bottles so that the first bottle holds 3/4 litre and the other holds 1/4 litre.

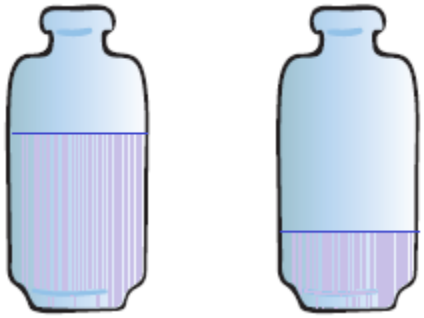
(a) Shade the level of milk in each bottle.

(b) How many millilitres of milk does each bottle hold?



Answer:

(a) The level of milk marked is shown in the below figure:



(b) We know 1 litre = 1000 millilitres

Quantity of milk in first bottle = 750 mL of milk

Quantity of milk in second bottle = 250 mL of milk

NCERT Book Page No: 105

Balance the Weight

Question: 22

Choose from the weights above to make the two pans equal. In how many ways can you do it?

Answer: There are many ways to do it. Some of the ways are as follows:

(i) 1 kg + 500 gm + 500 gm

(ii) 1 kg + 500 gm + 250 gm + 250 gm

(iii) 1 kg + 500 gm + 200 gm + 200 gm + 100 gm

(iv) 1 kg + 250 gm + 250 gm + 250 gm + 200 gm + 50 gm

(v) 1 kg + 200 gm + 200 gm + 100 gm + 500 gm

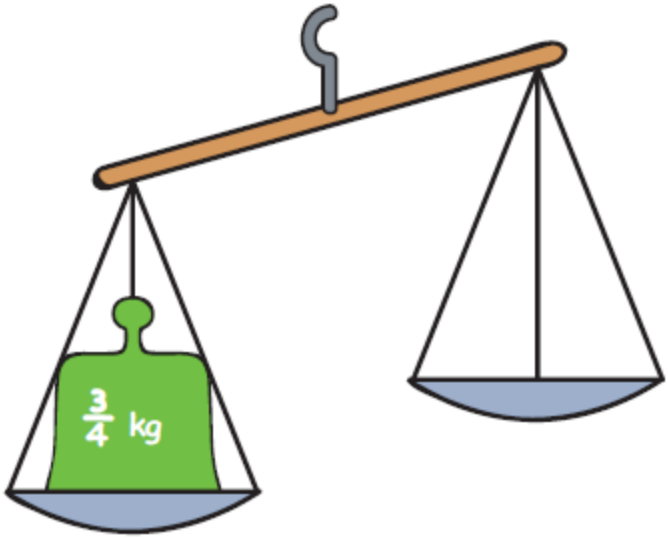
Question: 23

In how many different ways can you balance this weight of 3/4 kg?

1) ……..

2) ……..

3) ……



Answer:

3/4 kg = 1000 gm × 3/4

= 750 gm

1) 250 gm + 250 gm + 250 gm

2) 250 gm + 250 gm + 200 gm + 50 gm

3) 500 gm + 250 gm

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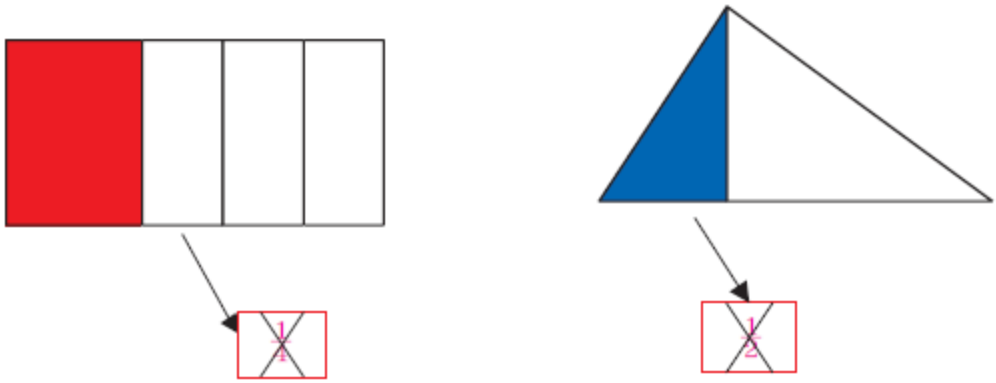
Why is it wrong?

Question: 24

Kannan shaded some parts, as shown in the figure. But his friend Mini says that it is wrong. Explain why it is wrong.



Answer: Only two of the rectangle's five sections are coloured. Thus, the coloured portion is 2/5. It is evident that there is less than half of the triangle that is coloured, even though we are unable to determine how many parts of the triangle are coloured. Thus, 1/2 is incorrect.

Practice Time

Question: 25

There are 60 mangoes, and 1/2 of them are ripe. How many mangoes are ripe?

Answer: Total number of mangoes = 60 mangoes

Hence, the number of mangoes which are ripe = 1/2 × 60

= 30 mangoes.

Therefore, 30 mangoes are ripe.

Question: 26

There are 32 children, and 1/2 of them are girls. How many children are boys?

Answer: Total number of children = 32

Half of them are girls, then remaining half will be obviously boys

Hence, half of 32 = 1/2 × 32 = 16

Therefore, the number of boys is 16.

Question: 27

There are 20 stars. A quarter of them is red. How many stars are red? How many stars are not red?

Answer: Total number of stars = 20 stars

1/4 stars are red

Hence, the number of red stars = 1/4 × 20

= 5 stars

Therefore, the number of stars which are red = 5 stars

Out of 20 stars, if 5 stars are red, then obviously remaining 15 stars are not red.

Therefore, the number of stars which are not red = 15 stars.

Question: 28

Ravi wants a pencil. It costs Rs. 2. He gives a one-rupee coin, one half-rupee coin and one quarter-rupee coin. Is it enough?

Answer: Total amount that Ravi gave = (1 + 0.50 + 0.25)

= Rs. 1.75

But, the cost of the pencil = Rs. 2

Money required to buy a pencil = Rs. (2.00 – 1.75)

= Rs. 0.25

Consequently, the amount of money gave by Ravi is enough because a pencil still costs Rs. 0.25.

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