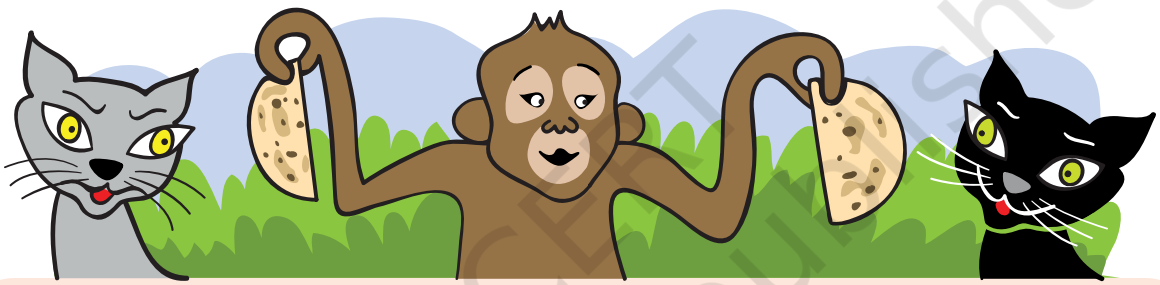
0425CH09

9 Halves and Quarters

Mintu cat and Mottu cat were friends. Once they stole a chapati from Malini's kitchen. I will take it — said Mintu. No, I will take it — said Mottu. While they were quarrelling, there came Tittu Monkey. Hi! What is the problem? why are you quarrelling? — he asked. "We don't know how to divide this chapati between us — the cats said. OK! don't worry. I will divide the chapati equally for both of you — he said. Clever Tittu divided the chapati like this:



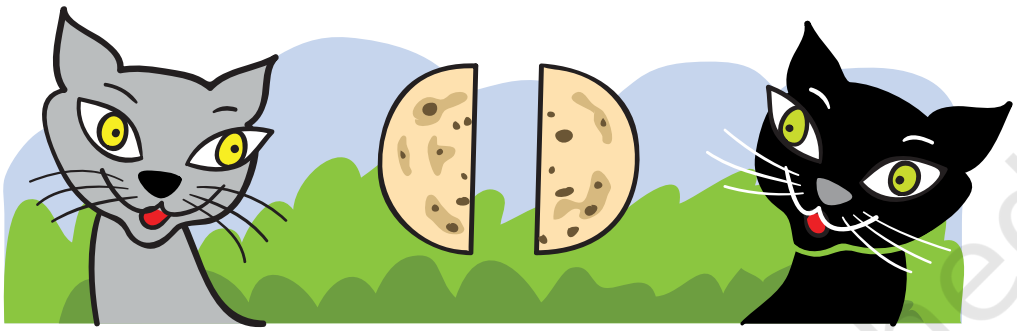
These are not equal, the left part is bigger — Mintu and Mottu said. Oh, no problem, I will make it equal — Tittu said. He then cut a part of the left piece and ate it.

Oh! Now the right part is bigger — the cats cried. I am sorry — said Tittu. He cut a part from the bigger piece and ate it. When there was only a small piece remaining, he said — This is my share for the work. Tittu then quickly ate the last piece and climbed the tree.

Half-Half

- If the cats ask you to divide the chapati equally, how will you divide it?

If you do not cheat like Tittu, the cats will have these parts.

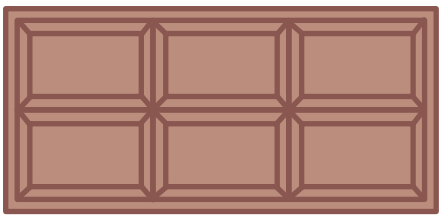


Half of Half

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

Half of Many Pieces

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



- Circle the portion that Reena got.

How many pieces of chocolate are there? _____

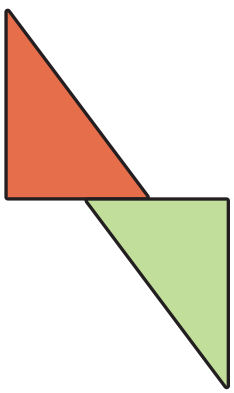
How many pieces were left with Rani? _____

Many Shapes from a Half Sheet

Take a piece of paper. Cut the sheet into two equal triangles so that each triangle is equal to half of the sheet.

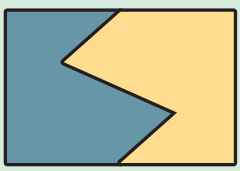
Shade the two triangles with different colours.

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



Many Ways to Cut into Half

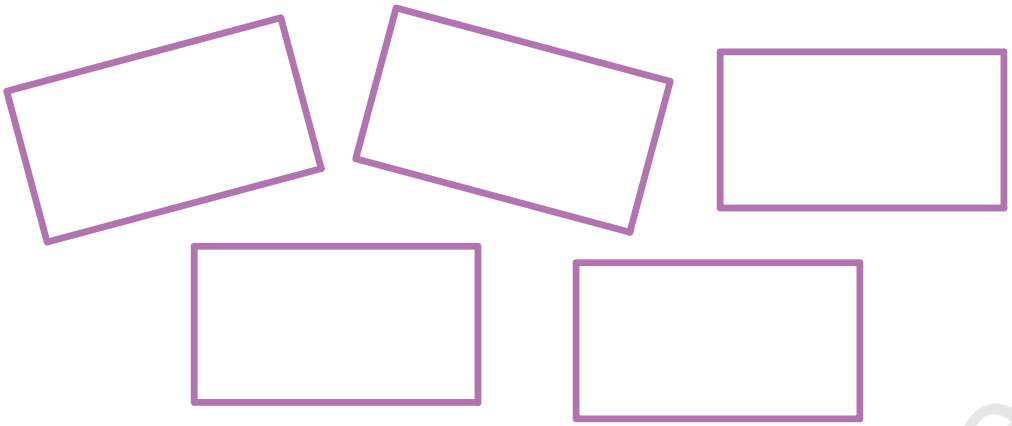
I have made a rectangle into two equal parts like this. Each part is **half**.



We write it as $\frac{1}{2}$. It means 1 part out of 2. You can check if these parts are equal. Try keeping one on top of the other.

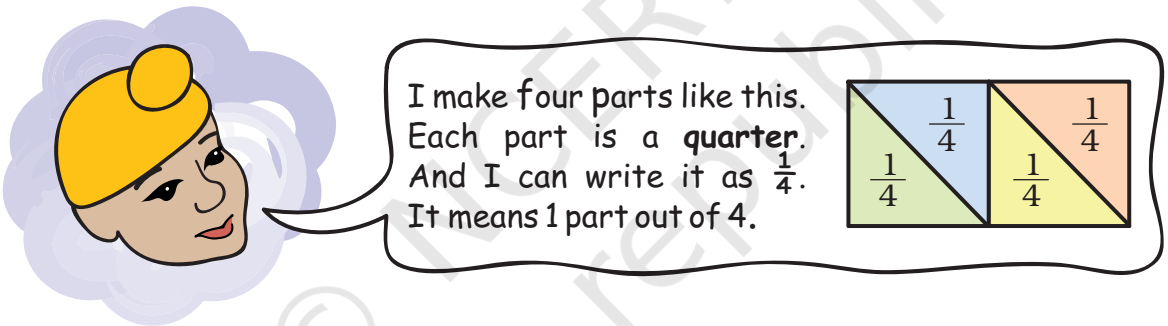
In how many different ways can you cut a **rectangle** into half?

- Draw 5 different ways .

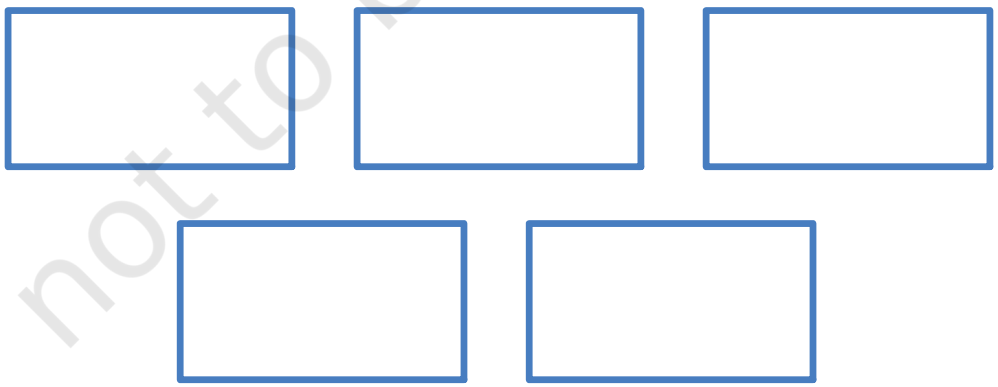


Can you check if they are equal?

Many Ways to Make Quarters



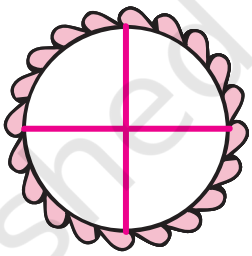
- In how many different ways can you cut a rectangle into four equal parts? Draw 5 different ways.



Can you check if they are equal?

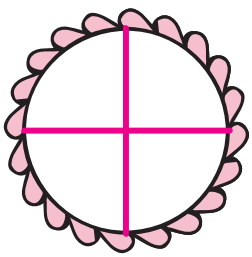
Cutting the Cake

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



- Colour each share with different colours.
- How much does each get? _____

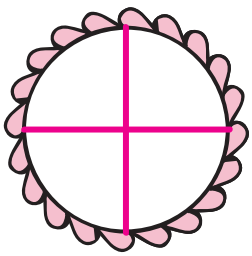
- Father gave his share of cake to Rajni. Now colour the total part that Rajni will get.



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

  So she can write it as $\frac{\quad}{4}$ or $\frac{1}{2}$.

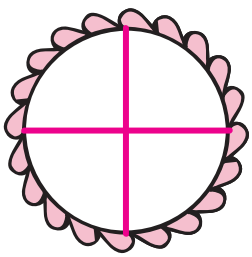
Before Rajni's father gave his share to Rajni, she had only $\frac{1}{2}$ of 'half the cake', which was $\frac{1}{4}$ of the total cake.



- Colour the share Raju got.

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

  Altogether they get 3 parts out of 4, so we can write it as $\frac{3}{4}$.



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 ₹10. He asks the first pumpkin seller the price of a big pumpkin.

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

✤ This full pumpkin will cost ₹ _____.

Kundu — Eh! For ₹ 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 ₹ 10. I keep only good quality pumpkins.

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

Kundu — How much of this pumpkin will I get for ₹10?

Second pumpkin-seller — Half.

✤ This full pumpkin will cost ₹ _____.

Kundu— Eh! Why not give me $\frac{3}{4}$?

Second pumpkin-seller — Run away! Go, get your pumpkin from that man. He sells such bad vegetables that he will even give you a full pumpkin of this size for ₹ 10.

The greedy Kundu walks to the next pumpkin seller. He looks at a pumpkin of the same size and asks him —will you give me this big one for ₹ 10?

Third pumpkin-seller — Why don't you climb the roof of that house? You can get pumpkins free from the plant itself!

Kundu is very happy. He climbs the roof of that house and then .....

Using a Price List

a) How much does $\frac{1}{2}$ kg of tomatoes cost?

b) Which costs more – $\frac{1}{2}$ kg of onions or $\frac{1}{4}$ kg of carrots?

c) What is the price of $\frac{3}{4}$ kg of potatoes?

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

e) Make two questions yourself from the price list.

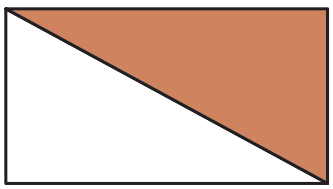
1.

2.

Item	Price in ₹ (per kg)
Tomato	8
Potato	12
Onion	10
Carrot	16
Pumpkin	4

Practice Time

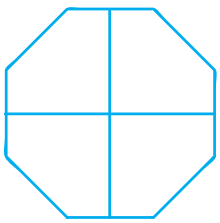
a) What part of the whole is coloured? Write below each shape.



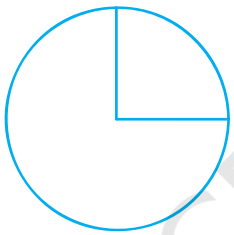
_____

_____

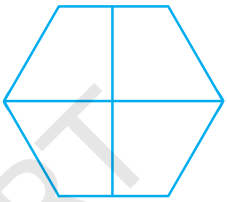
b) Colour that part of the shape which is written below.



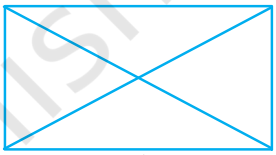
$\frac{1}{2}$



$\frac{3}{4}$



$\frac{3}{4}$



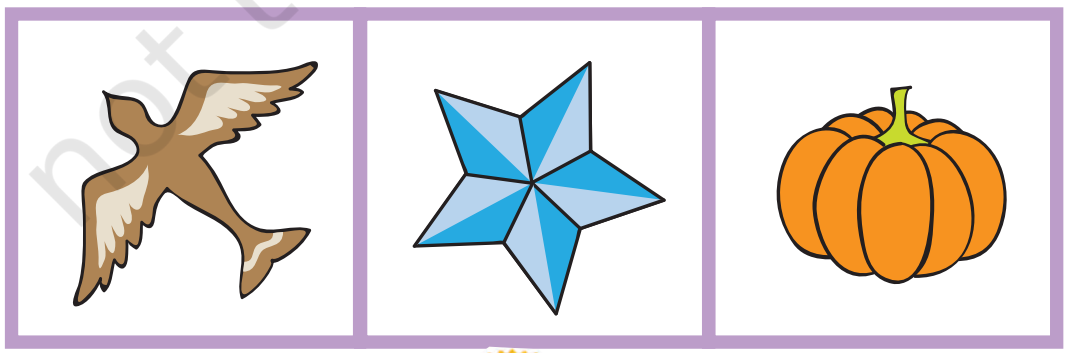
$\frac{1}{4}$

$\frac{1}{2}$

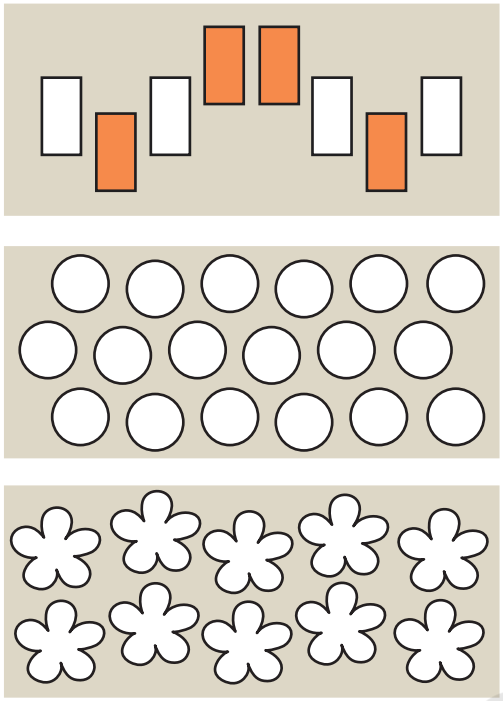
$\frac{3}{4}$

c) ***Cut in half***

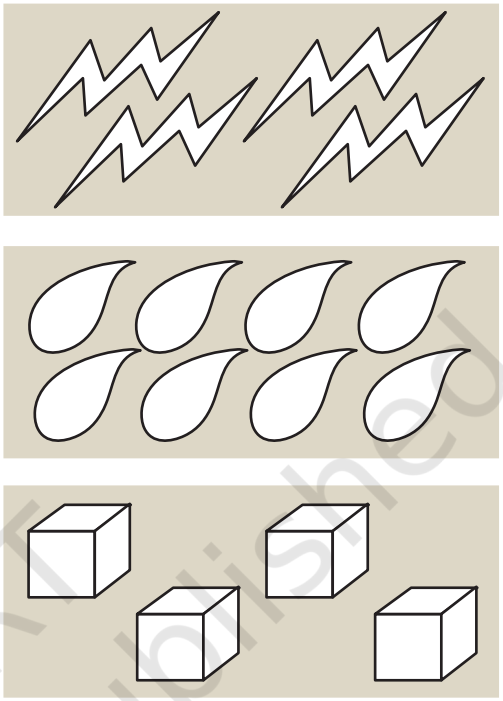
Draw a line which divides these shapes into half.



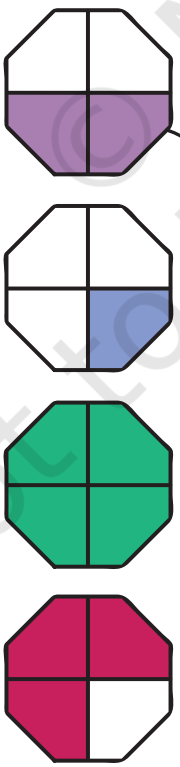
d) Colour half the number of shapes as shown here.



e) Colour $\frac{1}{4}$ of these shapes.



f) Match the coloured part as shown.

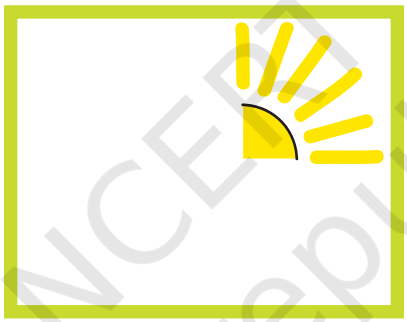


Quarter	$\frac{3}{4}$
Half	$\frac{4}{4}$
Three Quarters	$\frac{1}{2}$
Whole	$\frac{1}{4}$

g) ***Make the other half***

$\frac{1}{2}$ of the picture is drawn here. Can you complete the picture by drawing the other half?

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



Half and Quarter of a Metre

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

- On this string, mark the length $\frac{1}{2}$ metre, $\frac{1}{4}$ metre and $\frac{3}{4}$ metre.
- Using your string, draw a line of length $\frac{1}{2}$ metre on the floor. How many centimetres long is the line? _____

So

$\frac{1}{2}$ metre= ..... cm

$\frac{1}{4}$ metre= ..... cm

$\frac{3}{4}$ metre= ..... cm

Can you see that when we add $\frac{1}{2}$ and $\frac{1}{4}$ we get $\frac{3}{4}$?

Sharing Milk

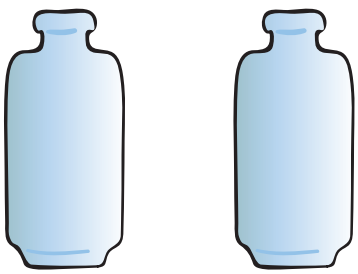
This bottle is full of milk and it holds one litre. The milk is put into 4 other bottles so that each bottle has $\frac{1}{4}$ litre of milk.

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

Remember, 1 litre=1000 millilitres

- How many millilitres of milk does each bottle have? _____

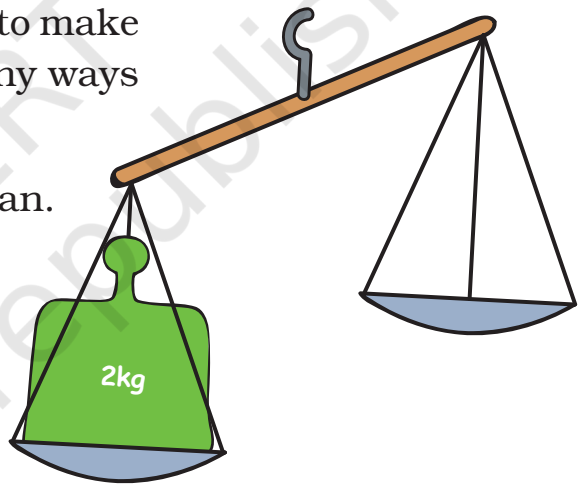
Shan poured 1 litre of milk into two bottles so that the first bottle holds $\frac{3}{4}$ litre and the other holds $\frac{1}{4}$ litre.



- Shade the level of milk in each bottle.
- How many millilitres of milk does each bottle hold?

Balance the Weight

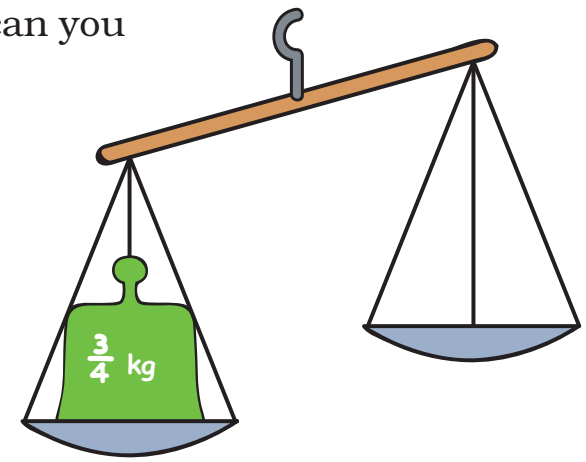
- Choose from the weights above to make the two pans equal. In how many ways can you do it?



a) Draw the weights in the empty pan.

Remember, 1kg =1000 g

b) In how many different ways can you balance this weight of $\frac{3}{4}$ kg?



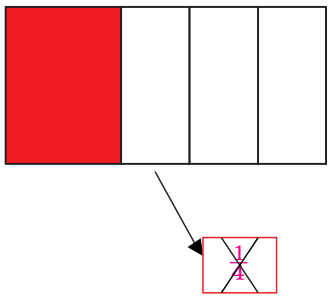
1) .....

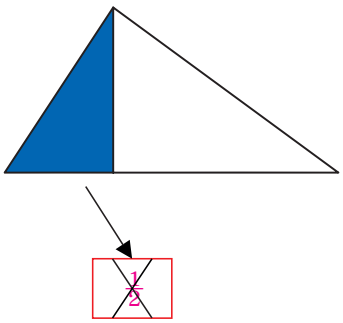
2) .....

3) .....

Why is It Wrong?

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





Practice Time

- There are 60 mangoes. $\frac{1}{2}$ of them are ripe. How many mangoes are ripe?
- There are 32 children. $\frac{1}{2}$ of them are girls. How many children are boys?
- There are 20 stars. A quarter of them are red. How many stars are red?

  How many are not red?
- Ravi wants a pencil. It costs ₹ 2. He gives a one-rupee coin, one half-rupee coin and one quarter-rupee coin. Is it enough?