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.


Now is it equal?

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. Wh there was only a small piece remaining, he said — This is share for the work. Tittu then quickly ate the last piece a climbed the tree.

Half-Half

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

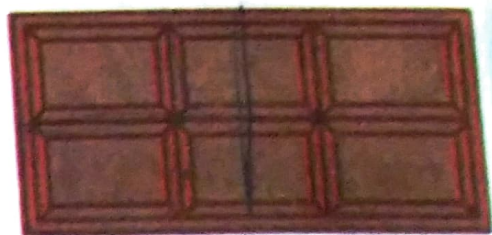If you do not cheat like Tittu, the cats will have these parts.
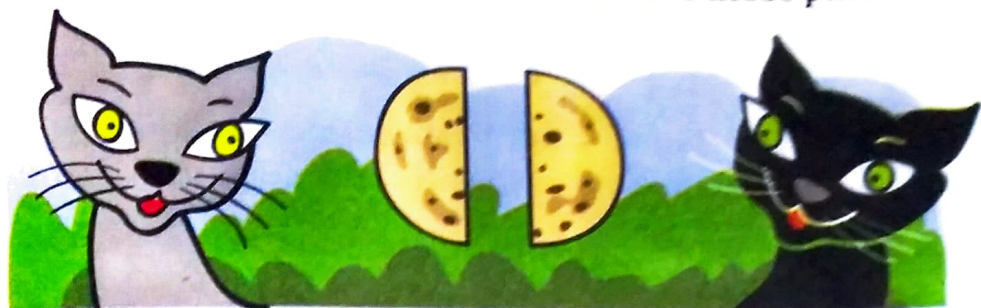
Half of Half

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

Each of us got a quarter of the chapati. You are a good 'divider'. Ha!

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? ___6___

How many pieces were left with Rani? ___3___

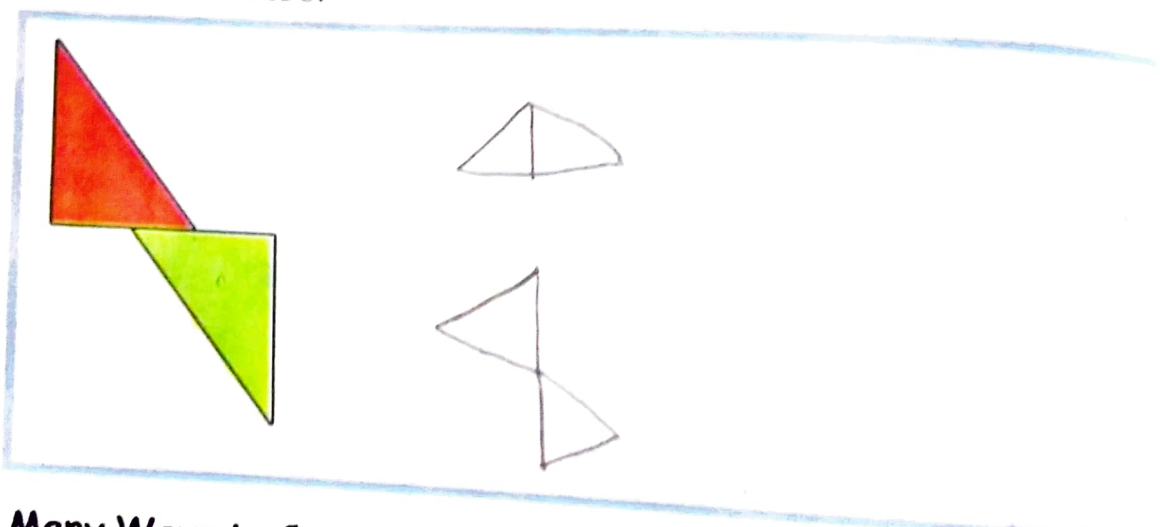Ha! Half a chocolate is as tasty as a whole chocolate!

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.
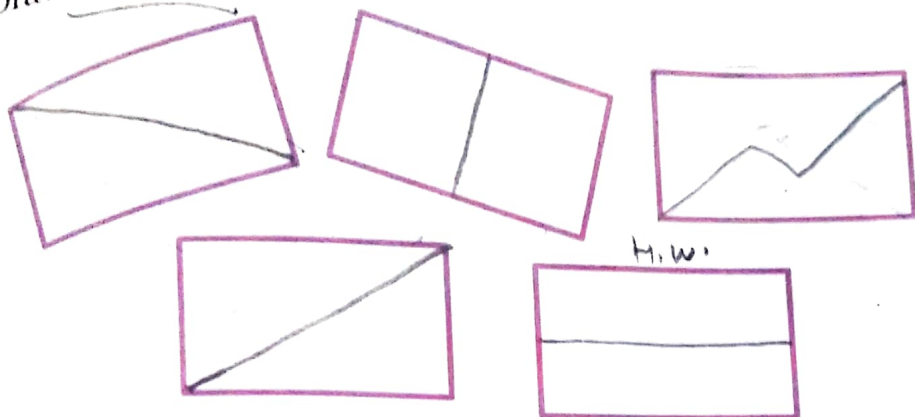
Many Ways to Cut into Half

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.

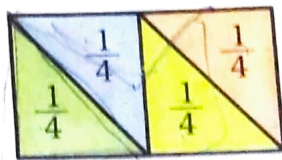In how many different ways can you cut a **rectangle** into half?

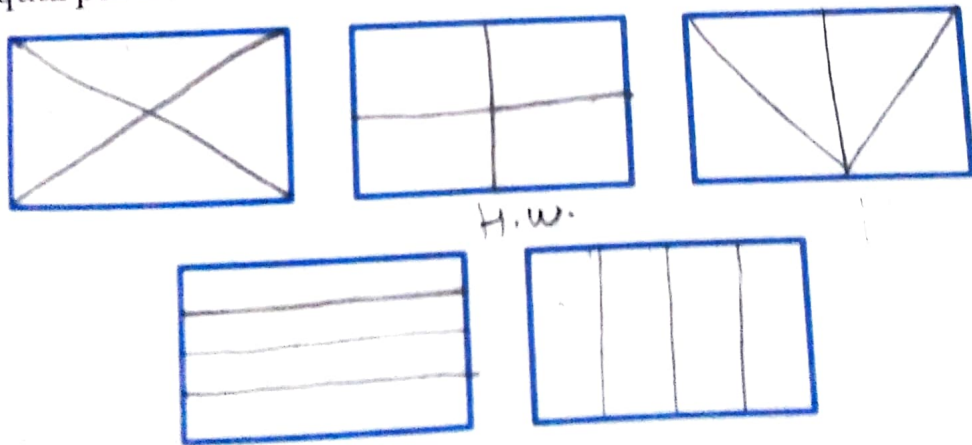✢ Draw 5 different ways .

H.w.

Can you check if they are equal? yes

Many Ways to Make Quarters

I make four parts like this.
Each part is a quarter.
And I can write it as $\frac{1}{4}$.
It means 1 part out of 4.

$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$

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

H.w.

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? _Quarter_

$\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{2}$

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

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

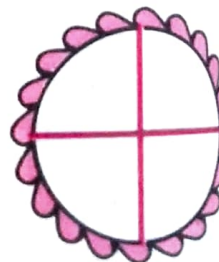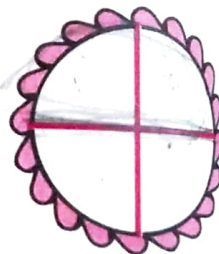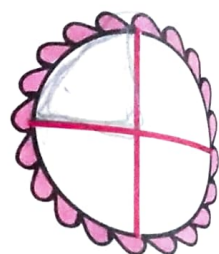 So she can write it as $\frac{}{4}$ or $\frac{1}{2}$.

Before Rajni's mother gave her 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 $\frac{3}{4}$.

$\dfrac{Numerator}{Denominator}$

98

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 Rs 10. 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.

❖ This full pumpkin will cost 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.
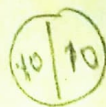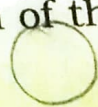
Kundu walks to the next seller and looks for a pumpkin of the same size.

Kundu — How much of this pumpkin will I get for Rs10?

Second pumpkin-seller — Half.

❖ This full pumpkin will cost Rs ___20___.

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 Rs 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 Rs 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? *4 RS*

(10) Half = (5)

b) Which costs more – $\frac{1}{2}$ kg of onions or $\frac{1}{4}$ kg of carrots? *$\frac{16}{4} = 4$) onions*

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

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

e) Make two questions yourself from the price list.

1. what is the price of 4kg of tomatoes?
2. what is the price of 5kg of Pumpkin?

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

Potato - $\frac{1}{2}$ kg
Pumpkin - 2 kg
Carrot - $\frac{1}{4}$ kg

100

IV

q.1.   Using a price list

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

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

Ans:-   1 kg tomatoes cost $= 8 = \frac{8}{2}$

$\frac{1}{2}$ kg tomatoes cost $=$ Rs. 4.

(b)   which costs more - $\frac{1}{2}$ kg of onions or $\frac{1}{4}$ kg of carrots?

Ans-(i) cost of 1kg onion = Rs. 10

cost of $\frac{1}{2}$ kg onion = $\frac{10}{2}$ = 5 ✓

(ii) cost of 1kg carrot = Rs. 16
cost of $\frac{1}{4}$ kg carrot = $\frac{16}{4}$ = Rs. = 4

Onions cost more

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

Ans-   cost of 1 kg potatoes = 12

cost of $\frac{3}{4}$ of potatoes = $\frac{3}{4} \times 12 = \frac{36}{4} = 9$

$=$ ~~Rs. 9~~ = Rs. 9

shopping list	potato — ½ kg
	pumpkin — 2 kg
	carrot = ¼ kg

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

Ans:-(i) cost of 1kg potatoes = 12

cost of ½ kg potatoes = $\frac{1}{2} \times 12$ = Rs 6

(ii) cost of 1kg pumpkin = ₹4

cost of 2 kg pumpkin = 4 × 2 = Rs 8

(iii) cost of 1kg carrot = 16

cost of ¼ kg carrot = $\frac{1}{4} \times 16$ = Rs. ₹4

Total Rs = 6 + 8 + 4 = 18

(e) Make two question yourself from the price list.

(i) what is the price of 4kg of tomatoes?

Ans —

(ii) what is the price of 5kg of pumpkin?

Ans —

Practice Time

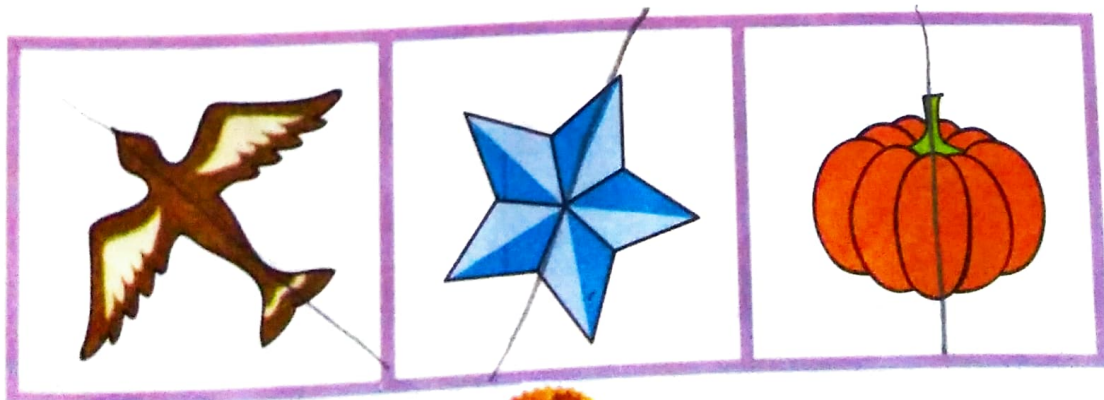a) What part of the whole is coloured? Write below each shape.

$\frac{1}{2}$

$\frac{1}{2}$

$\frac{3}{4}$ $\frac{1}{4}$
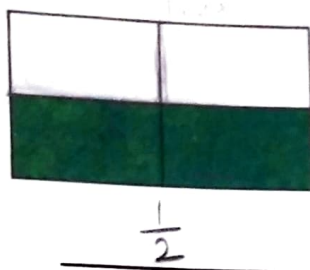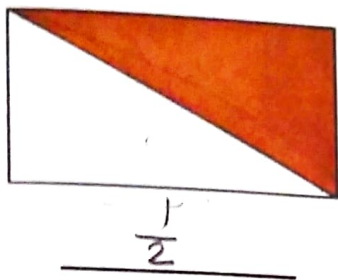
b) Colour that part of the shape which is written below.

$\frac{1}{2}$

$\frac{3}{4}$

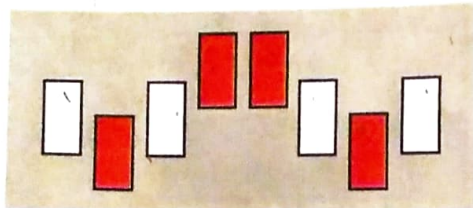$\frac{3}{4}$

$\frac{1}{4}$

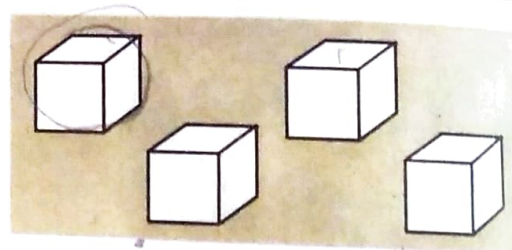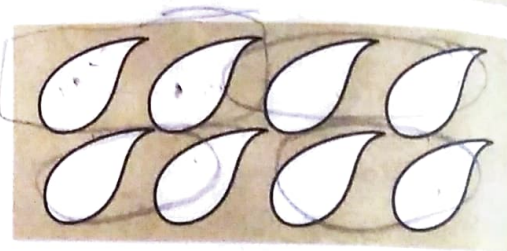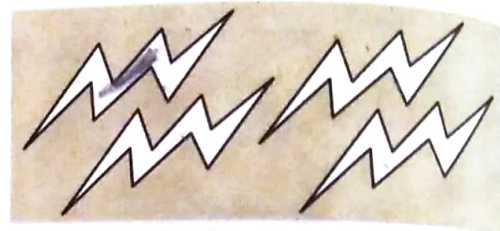$\frac{1}{2}$

$\frac{3}{4}$
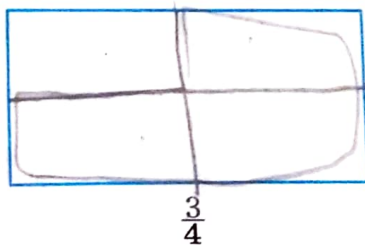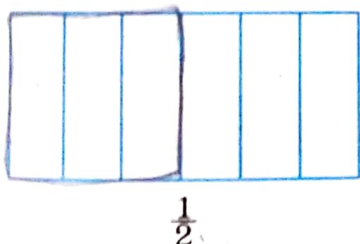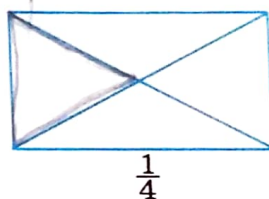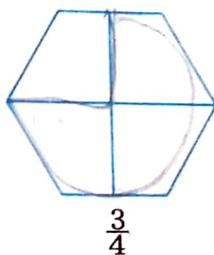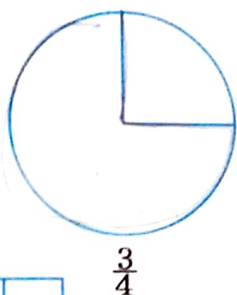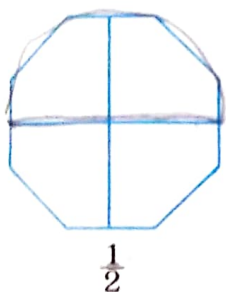
c) **Cut in half**

Draw a line which divides these shapes into half.

d) Colour half the number of shapes as shown here.
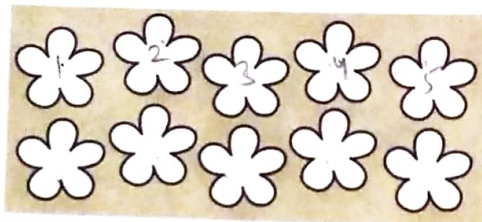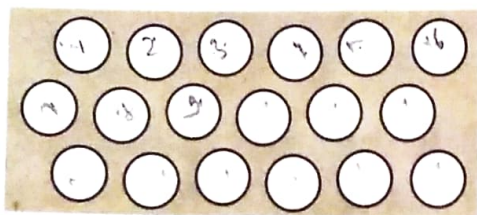
e) Colour $\frac{1}{4}$ of these shapes.

H. w.

f) Match the coloured part as shown.

Quarter

Half

Three Quarters

Whole

$\frac{3}{4}$

$\frac{4}{4}$

$\frac{1}{2}$

$\frac{1}{4}$