

NCERT book Page No: 95

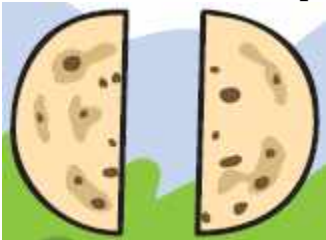
Half – Half

Question: 1

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



Answer: I will fold the chapati into two equal halves and then break them from the creased line. Now, the chapati is half.



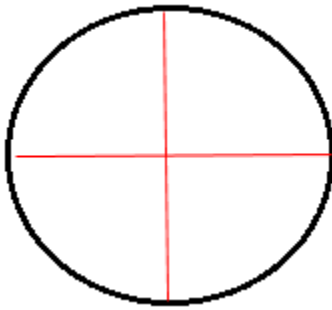
Half of Half



Question: 2

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

Answer: First divide the chapati's in two halves. Again divide it into further two halves. At last I will break the chapatti from the creased line as shown below



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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: The chocolate has totally six pieces.

(c) How many pieces were left with Rani?

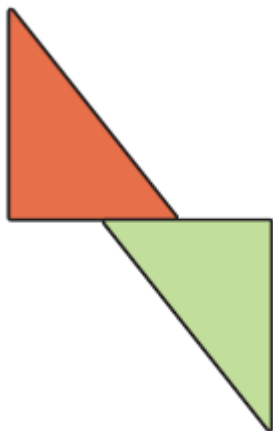
Answer: Rani gave half of her chocolate to her friend Reena. So, now Rani was left with 3 pieces of chocolate.

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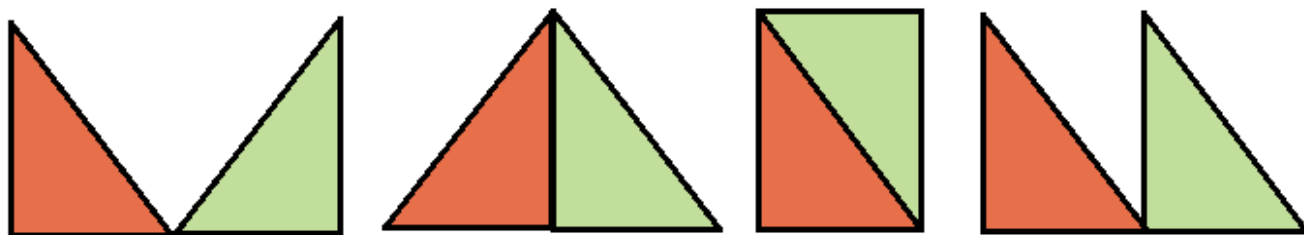
Many Shapes from a Half Sheet

Question: 4

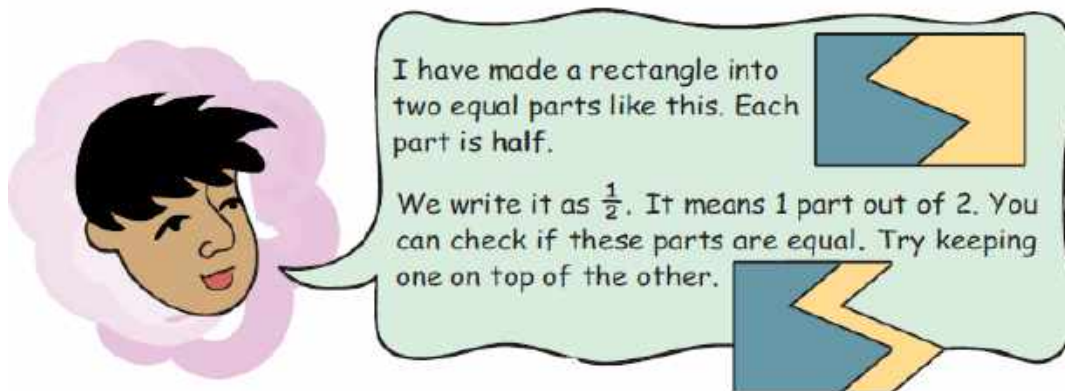
Draw different shapes using these triangles. One such shape is shown here.



Answer: Shapes using these triangles are shown below



Many Ways to Cut into Half

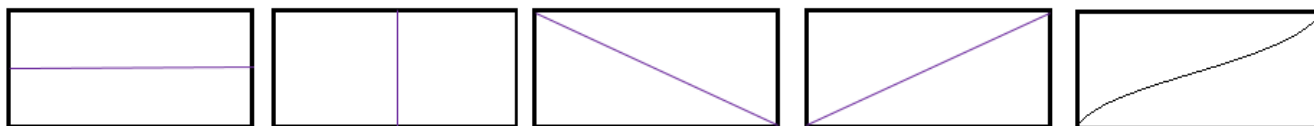


Question: 5

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 five different ways of a rectangle is shown below

Each part of a rectangle are equal as they exactly coincides with the other part.



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: A rectangle divided into four equal parts are shown below. Yes, they are equal since each part exactly coincides with the remaining three parts.



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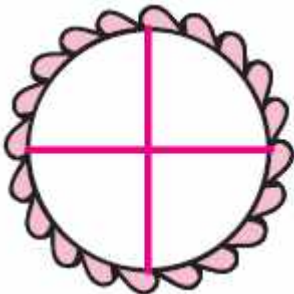
Cutting the Cake

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:



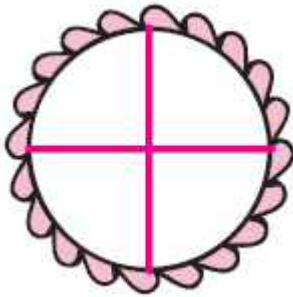
Question: 8

How much does each get?

Answer: Each get $\frac{1}{4}$ of the cake

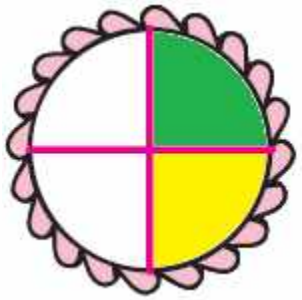
Question: 9

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



Answer: Each person get $\frac{1}{4}$ of the cake. So,
Cake that Rajni got = her share + her mother's share
 $= \frac{1}{4} + \frac{1}{4}$
 $= \frac{2}{4}$
 $= \frac{1}{2}$

Hence, Rajni got $\frac{1}{2}$ part of the cake.



Question: 10

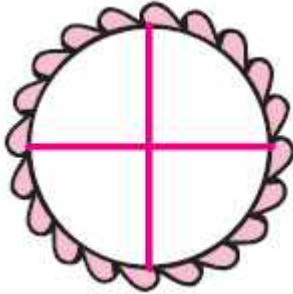
Out of 4 parts Rajni will get _____ parts, which is equal to half of the cake.

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

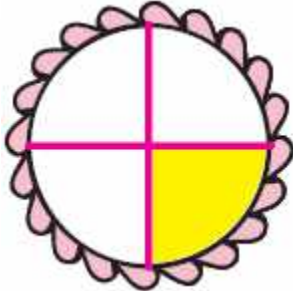
Answer: Rajni gets 2 parts of cake out of 4 parts. Hence, she can write it as $\frac{2}{4}$ or $\frac{1}{2}$

Question: 11

Colour the share Raju got.

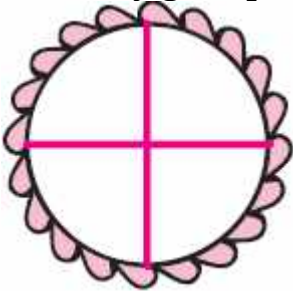


Answer: The shaded part shows $\frac{1}{4}$ part of the cake which Raju has got.

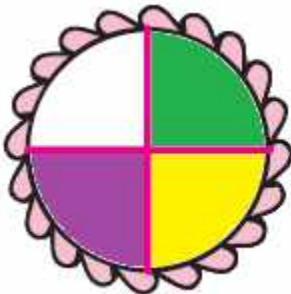


Question: 12

How much of the cake do Rajni and Raju together get? Colour their total share.
Altogether they get 3 parts out of 4, so we can write it as $\frac{3}{4}$



Answer: The total cake together Rajni and Raju got is $\frac{3}{4}$



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 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.

Question: 13

This full pumpkin will cost Rs _____

Answer: Cost of $\frac{1}{4}$ pumpkin = Rs 10

Cost of one pumpkin = Rs $10 \div \frac{1}{4}$

= 10×4

= 40

Hence, 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? Second pumpkin seller-Half.

This full pumpkin will cost Rs _____

Answer: Cost of half 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

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Using a Price List



Question: 15

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

Answer: The cost of 1 kg tomato = Rs 8

Hence, the cost of $\frac{1}{2}$ kg tomato = Rs $8 / 2$

= Rs 4

Therefore, the cost of $\frac{1}{2}$ kg tomatoes = Rs 4

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

Answer: The cost of 1 kg onion = Rs 10

Therefore, the cost of $\frac{1}{2}$ kg onion = $10 / 2$

= Rs 5

The cost of 1 kg carrot = Rs 16

Hence, the cost of $\frac{1}{4}$ kg carrot = $16 / 4$

= Rs 4

Hence, the cost of $\frac{1}{2}$ kg of onions is more than the cost of $\frac{1}{4}$ kg of carrots

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

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

The cost of $\frac{3}{4}$ kg of potatoes = Rs $12 \times \frac{3}{4}$

= Rs $\frac{36}{4}$

= Rs 9

Therefore, the cost of $\frac{3}{4}$ kg of potatoes = Rs 9

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

Answer: Total money Keerthi has = Rs 20

Her shopping list includes = $\frac{1}{2}$ kg potatoes, 2 kg pumpkin and $\frac{1}{4}$ kg carrots.

Cost of 1 kg potatoes = Rs 12

Cost of $\frac{1}{2}$ kg potatoes = Rs $12 \div 2$

= 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 $\frac{1}{4}$ kg carrot = Rs $16 \div 4$

= Rs 4

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

= Rs 18

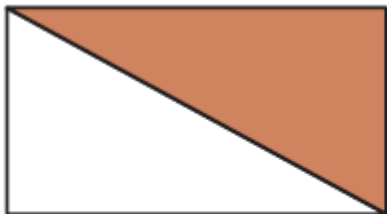
Hence, Keerthi can buy all the vegetables in her shopping list.

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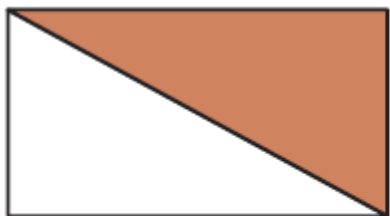
Practice Time

Question: 16

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



Answer:



$\frac{1}{2}$

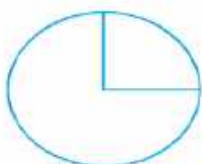


$\frac{2}{4}$

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



$\frac{1}{2}$



$\frac{3}{4}$



$\frac{3}{4}$



$\frac{1}{4}$

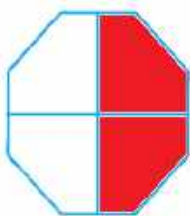


$\frac{1}{2}$



$\frac{3}{4}$

Answer:



$\frac{1}{2}$



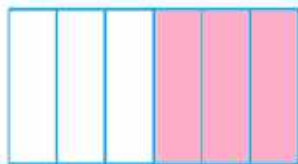
$\frac{3}{4}$



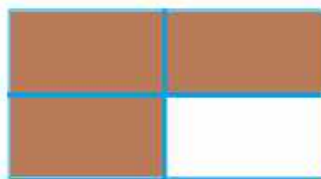
$\frac{3}{4}$



$\frac{1}{4}$



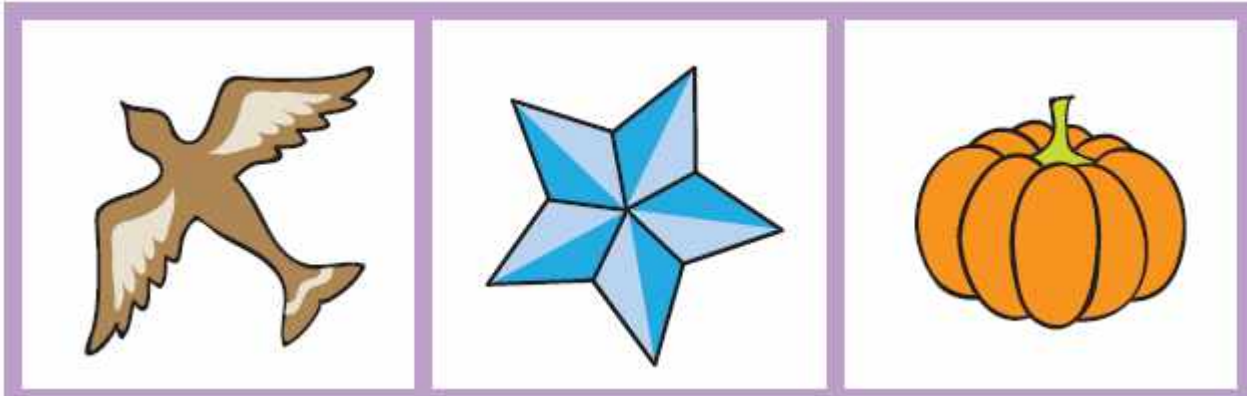
$\frac{1}{2}$



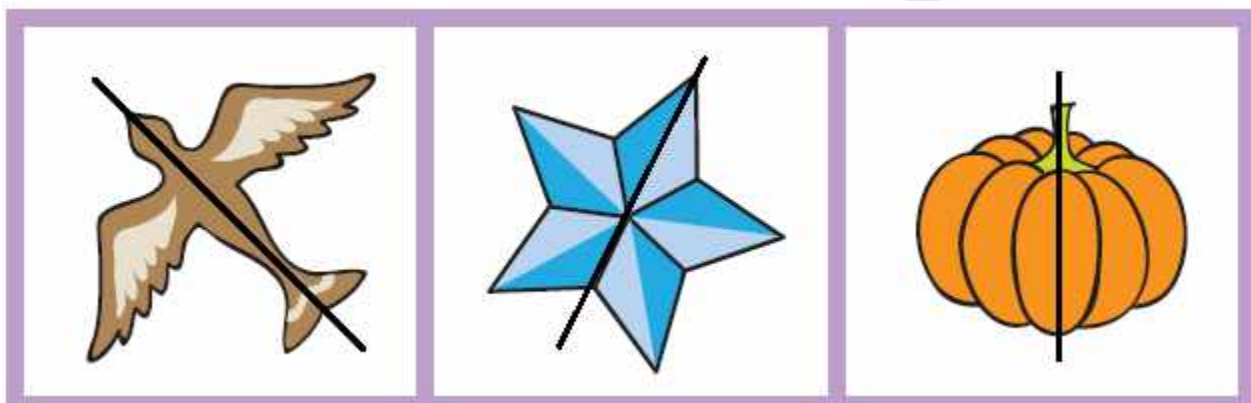
$\frac{3}{4}$

(c) Cut in half

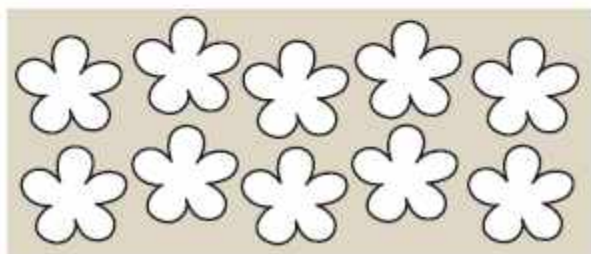
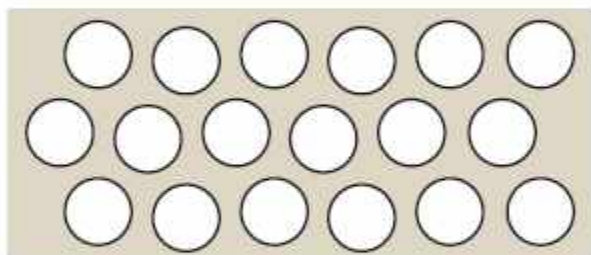
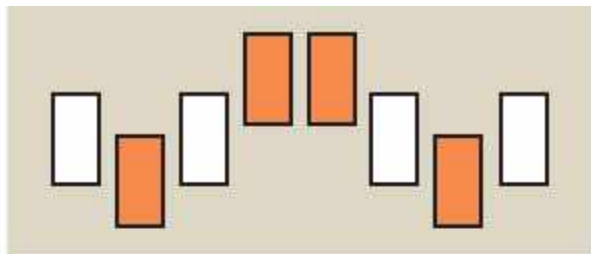
Draw a line which divides these shapes into half.



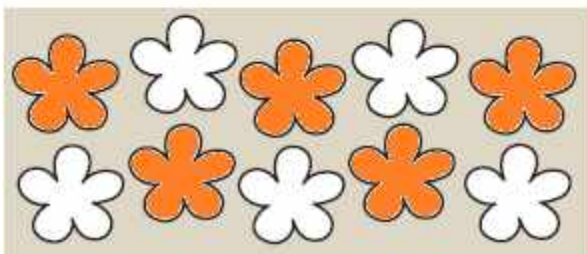
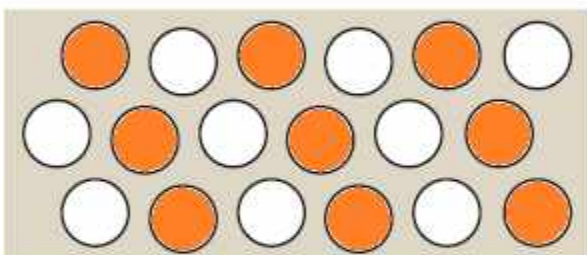
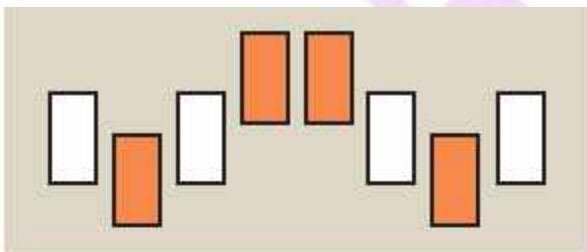
Answer:



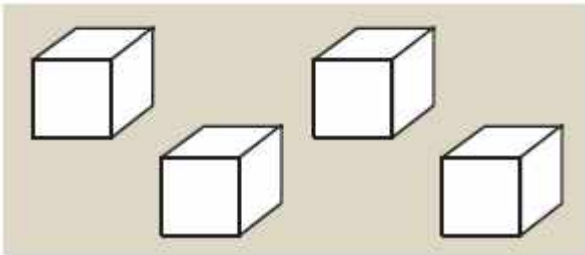
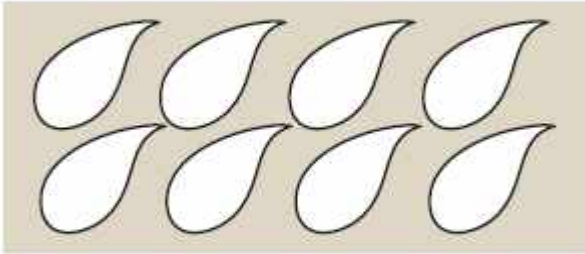
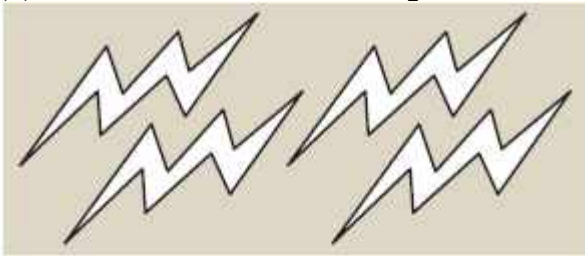
(d) Colour half the number of shapes as shown here.



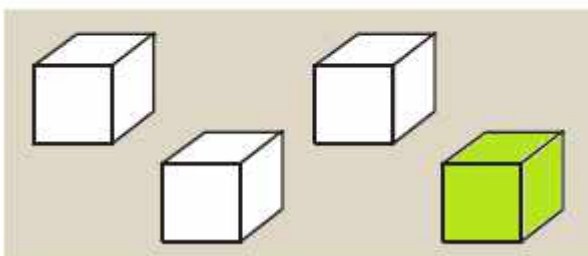
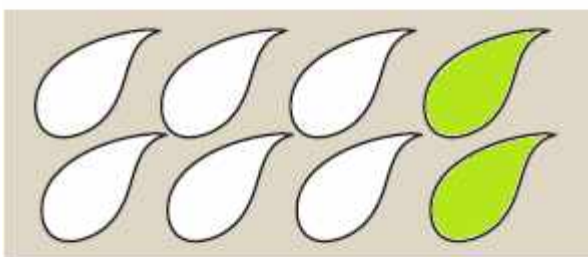
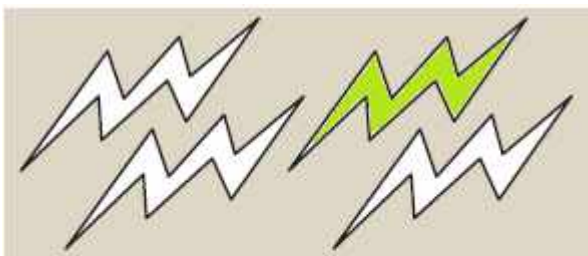
Answer:



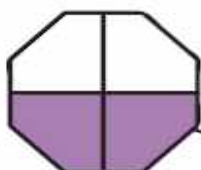
(e) Colour $\frac{1}{4}$ of these shapes.



Answer:



(f) Match the coloured part as shown.



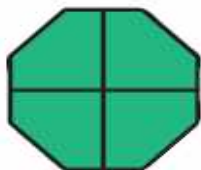
Quarter

$$\frac{3}{4}$$



Half

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



Three Quarters

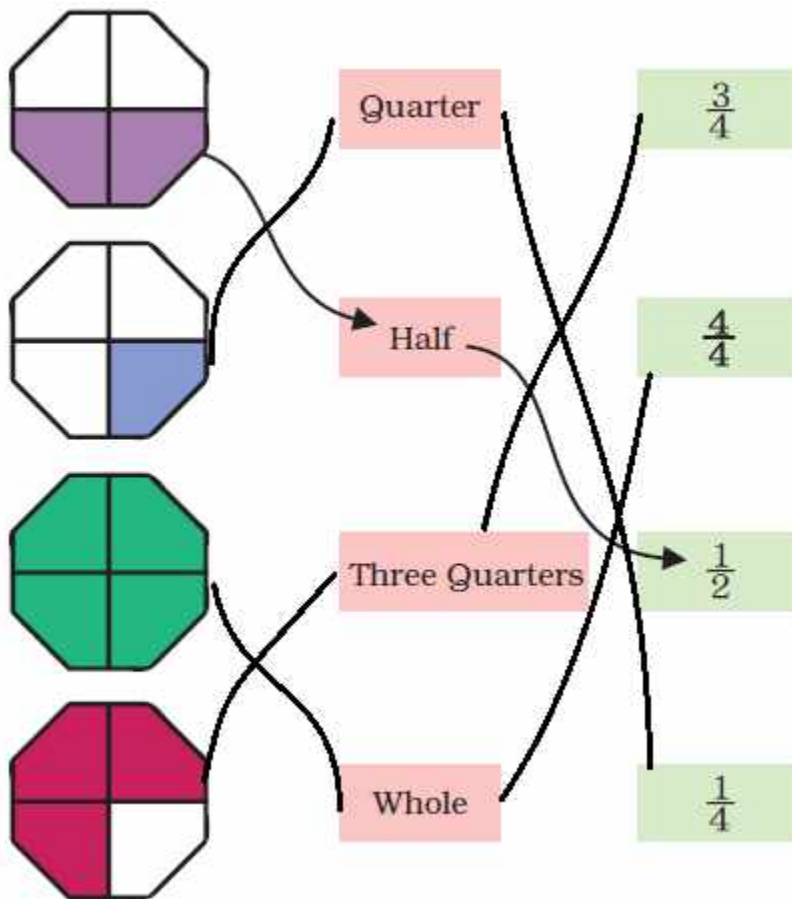
$$\frac{1}{2}$$



Whole

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

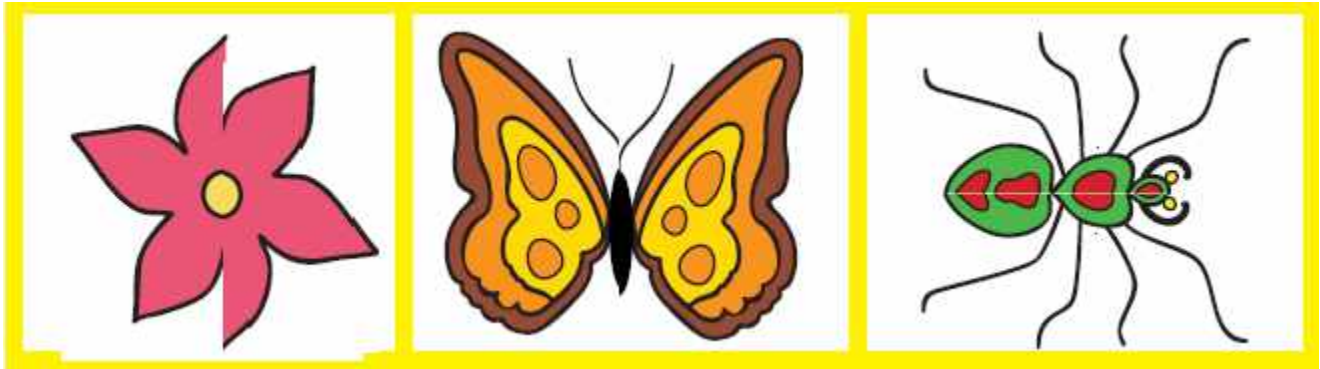
Answer:



(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.

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.

Question: 17

How many centimetre long is the line?



Answer: We know

$$1 \text{ m} = 100 \text{ cm}$$

$$1/2 \text{ m on the floor} = 100 \text{ cm} \div 2$$

$$= 50 \text{ cm}$$

Hence, $1/2 \text{ m on the floor} = 50 \text{ cm long}$

Question: 18

So,

$$1/2 \text{ metre} = \dots\dots\dots \text{ cm}$$

$$1/4 \text{ metre} = \dots\dots\dots \text{ cm}$$

$$3/4 \text{ metre} = \dots\dots\dots \text{ cm}$$

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

Answer:

$$1/2 \text{ metre} = 100 \times 1/2$$

$$= 50 \text{ cm}$$

$$1/4 \text{ metre} = 100 \times 1/4$$

$$= 25 \text{ cm}$$

$$3/4 \text{ metre} = 100 \times 3/4$$

$$= 75 \text{ cm}$$

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 $3/4$

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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 $1/4$ 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 = $\frac{1}{4}$ litre of milk

Hence, each bottle contains = $1000 \text{ mL} \div 4$
= 250 mL of milk

Question: 21

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.

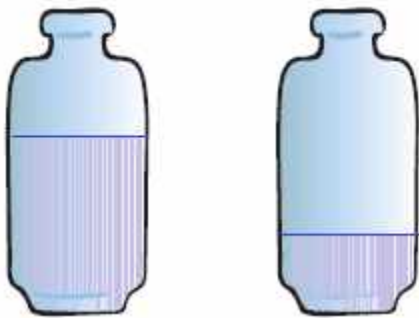
(a) Shade the level of milk in each bottle.

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



Answer:

(a) The level of milk marked is shown in 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

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Balance the Weight



Question: 22

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

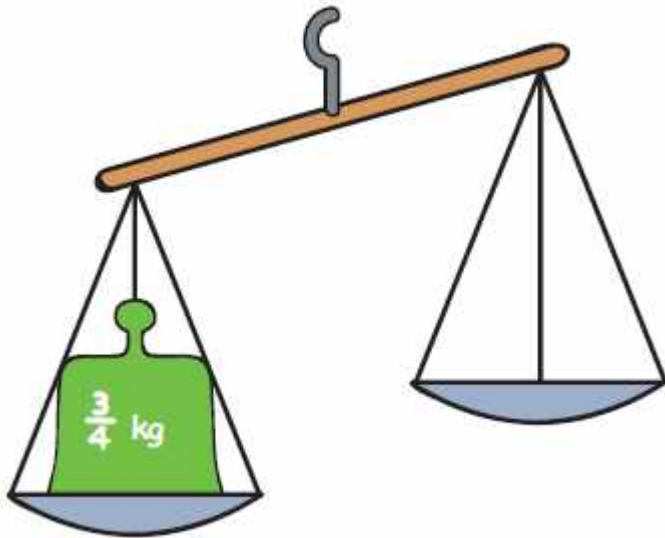
Answer: There are many ways. Some of the ways are as follows

- (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 $\frac{3}{4}$ kg?

- 1)
- 2)
- 3)



Answer:

$$\frac{3}{4} \text{ kg} = 1000 \text{ gm} \times \frac{3}{4} \\ = 750 \text{ gm}$$

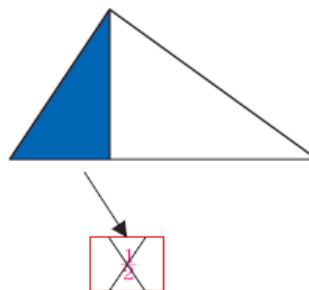
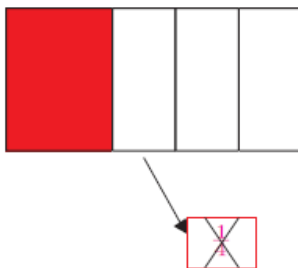
- 1) 250 gm + 250 gm + 250 gm
- 2) 250 gm + 250 gm + 200 gm + 50 gm
- 3) 500 gm + 250 gm

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Why is it Wrong?

Question: 24

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



Answer: Out of 5 parts of the rectangle, only 2 parts are coloured. Hence, it is $\frac{2}{5}$ part

which is coloured. In the triangle we cannot say how many parts of it is coloured, but it is clear that the coloured part is less than $\frac{1}{2}$ part. Hence, $\frac{1}{2}$ is wrong.

Practice Time**Question: 25**

There are 60 mangoes, $\frac{1}{2}$ of them are ripe. How many mangoes are ripe?

Answer: Total number of mangoes = 60 mangoes

Hence, number of mangoes which are ripe = $\frac{1}{2} \times 60$
= 30 mangoes.

Therefore, 30 mangoes are ripe

Question: 26

There are 32 children. $\frac{1}{2}$ 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 = $\frac{1}{2} \times 32 = 16$

Therefore, the number of boys are 16

Question: 27

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

Answer: Total number of stars = 20 stars

$\frac{1}{4}$ stars are red

Hence, the number of red stars = $\frac{1}{4} \times 20$
= 5 stars

Therefore, 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, 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

Therefore, still Rs 0.25 is required to buy a pencil.

Hence, money given by Ravi is not enough.