NCERT Solutions for 5th Class Maths Chapter 4-Parts And Wholes

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NCERT Solutions for 5th Class Maths Chapter 4-Parts And Wholes

Class 5: Maths Chapter 4 solutions. Complete Class 5 Maths Chapter 4 Notes.

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Our Flag

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- **Do you know to draw the flag?**
- **Draw a rectangle of length 8 cm and width 6 cm.**
- **Divide it into 3 equal parts and complete the flag.**
- **The top one-third of our flag is saffron (or orange).**
- **What is the colour of the middle one-third of the flag? Where will you draw the Ashoka Chakra?**
- **How much of the f|ag will you colour green?**
- **Is the white colour now less than 1/3 of the flag? Why?**

Ans. Yes, I know how to draw the flag.

- The colour of the middle one-third of the flag is white. I will draw the Ashoka Chakra in the middle of the white portion of the flag.
- I will colour one-third of the flag green.
- Because of the blue Ashoka Chakra, the white portion is a little less than l/3rd of the flag.

The Flag of Afghanistan

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(a)Now look at this flag. How much of it is black?

Ans. One-third of the flag is black.

(b)The green part of the flag can be written as———

Ans. One-third.

(c) Is red less than one-third of the flag? Why?

Ans. Yes, the red part is a little less than one third of the flag. This is because of the white emblem in the red portion.

The Flag of Myanmar

This is the flag of Myanmar, our neighbour.

(a)Is blue more than one-fourth of the flag or less?

Ans. The blue colour is a little less than one-fourth of the flag. This is because of the white emblem in the blue portion.

(b)Guess how much of the flag is red. Is it more than 1/2? Is it more than three-fourths?

Ans. Yes, it is more than 1/2 of the flag. It is also more than three-fourths.

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Find Out

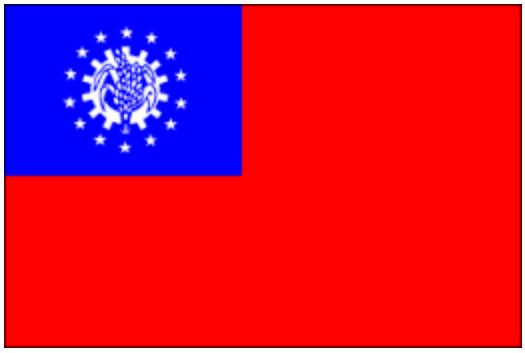
1.Collect as many flags as you can.

How many flags have three colours? Are all the coloured parts equal in these flags?

Ans.USA

Malaysia

Azerbaizan



United kingdom

Venuzuela

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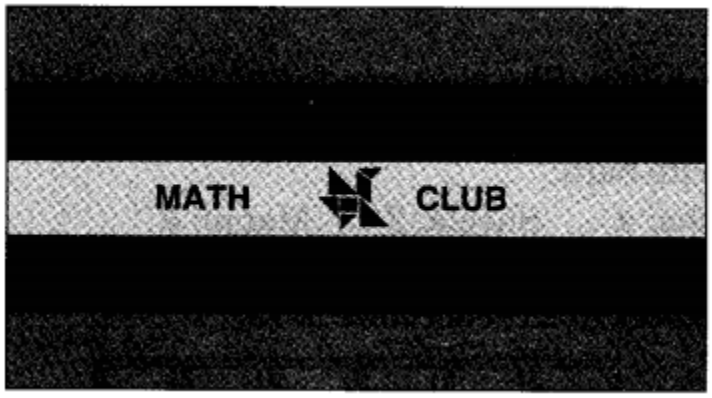
Ghana

Flags of Ghana, Azerbaizan, Malaysia and Venezuela have three colours.

2.This is the flag of the Math Club in a school in Kerala. What part of the flag is coloured red? What part is green?



Ans. Two-fifth part of the flag is in red colour. One-fifth part of the flag is in green colour.

3.

See this black logo. Draw it.

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Ans. We can draw the black logo as under:

4.Is there a Math Club in your school? If not, ask your teacher how to set it up. Design a flag for your Math Club. Draw it here.

Ans. No, there is no Math Club in my school. I have requested my teacher to help us in setting up a Math Club. I have designed the following flag for our math club.

5.Have you used the red colour? What part of the flag did you colour red? What were the other colours you choose?

Ans. Yes, I have used the red colour. The logo is made in red colour. Apart from red, I have used orange, sky blue and green colours in the flag.

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Magic Top

Let us make a magic top.

Take a cardboard piece.

Draw a circle of radius 3 cm and cut it out.

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Divide the circle into 8 equal parts. Now each part is 1/8 of the circle.

Colour 2/8 red, 1/8 orange, 1/8 yellow, etc. as shown here. Push a matchstick through the centre of the circle.Your magic top is ready Spin it fast!

1.What do you see? Can you see all the colours? Write, what you see in your notebook.

Ans. When the magic top is spinning, we cannot see the colours properly. We see a white circular top spinning.

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Practice Time

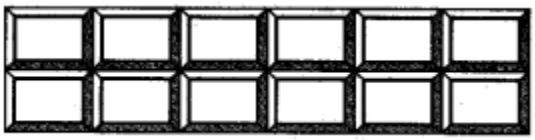
A.Chocolate Bar

1.Manju had a chocolate. She gave one-fourth of it to Raji, one-third to Sugatha and one-sixth to Sheela. She ate the remaining part. How many pieces of chocolate did each get? Write here.

Raji:3 Sugatha:4 Sheela:2 Manju: 3

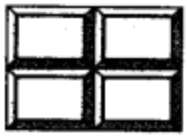
What part of the chocolate did Manju eat?

Ans. The number of pieces in the chocolate is 12;



Raji got one-fourth, which means she got 3 pieces;

Sugatha got one-third, which means she got 4'pieces;



Sheeia got one-sixth, which means she got 2 pieces;

Manju got the remaining portion. We can calculate the remaining portion as follows:

$$1-\left(\frac{1}{4}+\frac{1}{3}+\frac{1}{6}\right)=1-\left(\frac{3+4+2}{12}\right)$$

$$=1-\frac{9}{12}=\frac{12-9}{12}$$

$$=\frac{3}{12}=\frac{1}{4}$$

$$\text{and } \frac{1}{4} \text{ of } 12=\frac{1}{4}\times 12=3$$

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B. Colour the Hats

Colour 1/3 of the hats red.

Colour three-fifth hats blue.

(a)How many hats did you colour red?

(b)How many hats did you colour blue? .

(c)What part of the hats are not coloured?

Ans.(a)Total number of hats = 15

1/3 of 15 = 1/3 x 15 = 5

So, 5 hats are coloured red.

(b) 5/3 of 15 =3/5 x 15 = 3 x 3 = 9

So, 9 hats are coloured blue;

(c) Number of hats left = 15 – (9 + 5) = 15 – 14 = 1

Hence, 1/15 part of hats are not coloured.

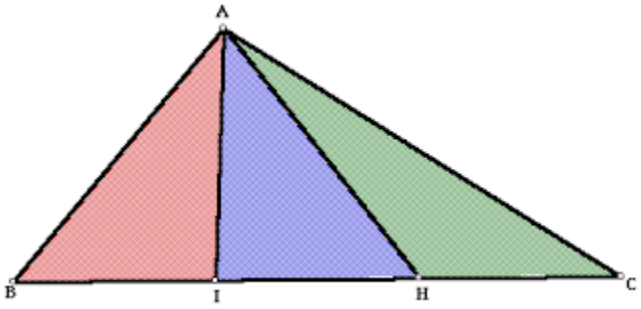
C. Equal Parts of a Triangle

1.The white triangle is divided into three equal parts. Fill each one-third part with a different colour. Can you show that these parts are equal? Think how.

Ans. Yes, this can be done by making a cut of the parts of the triangle by using tracing paper.

If one part is placed over another part, it is seen that the first part fully covers the second part. Moreover, the second part also fully covers the first part or the third part. This shows that all parts are equal.

2.Now try to make three equal parts of this triangle in a different way. Colour each one-third with a different colour.



Ans. The given triangle is coloured with different colours,

This is shown in the following figure.

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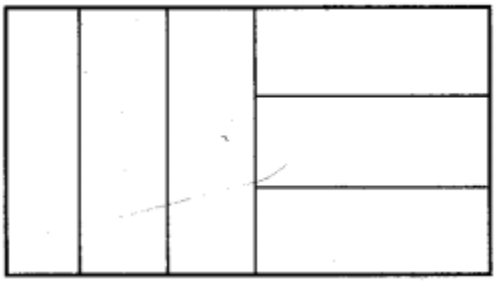
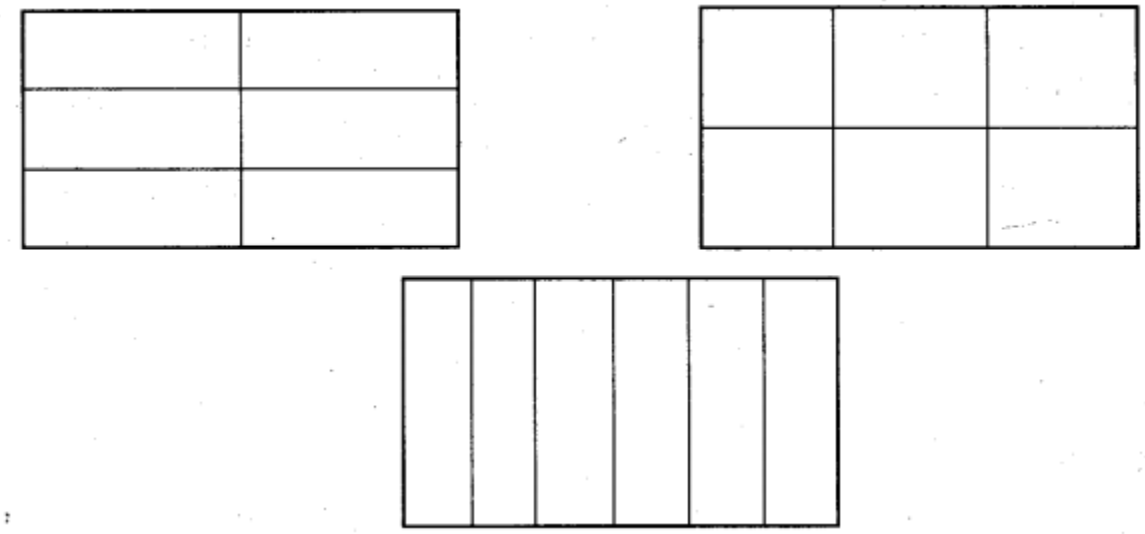
D.Six parts of a Rectangle

Rani has divided a green rectangle into six equal parts like this.



1.Now you divide each of these rectangles into six equal parts. Use a different way for each of the three rectangles.

Ans. These rectangles can be divided into six equal parts as follows:



Discuss

1.How will you check that each part is really one-sixth of that rectangle?

Ans. This can be done by making cutouts on tracing paper. Cutouts should be placed one over another. If a cutout completely covers another part and its opposite is also true then it means that both parts are equal. This process should be repeated for all the parts to check if they are l/6th of the given rectangle.

2.The green rectangle is bigger than the blue one. Can we say that 1/6 of the green rectangle is bigger than 1/6 of the blue rectangle?

Ans. Yes, if the whole is bigger, then its part is also bigger. So, 1/6 of green rectangle is bigger than 1/6 of the blue rectangle.

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Greedy Gatekeepers

1.What happened after that? Complete the story. What part of the prize did the poet get?

Ans. The poet got 100 slaps and returned happily. But as soon as he reached at the first gate he had to give half slaps to the gatekeeper, i.e. 50 slaps.

When he reached the second gate, he had to give 40 slaps to the gatekeeper. Finally, when he reached the last gate, he had to give 10 slaps to the gatekeeper. Thus, Birbal gave 50 + 40 + 10 = 100 slaps as demanded by three gatekeepers. Due to his presence of mind, Birbal did not get a single slap and could teach a lesson to gatekeepers.

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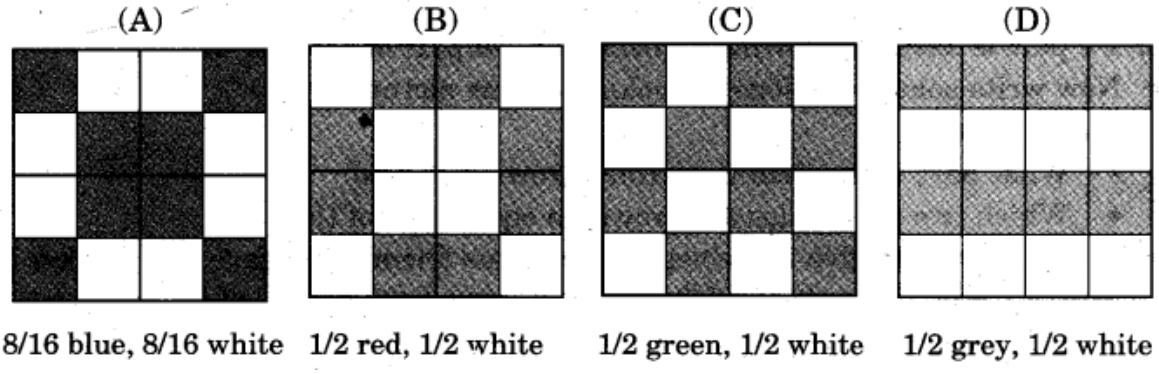
Patterns in Parts

1.Make different patterns by colouring some squares in the grids B, C, D. What part of the grid did you colour? What part of the grid remained white? Write.

Ans.



2.Look at grid A again. Is the grid coloured:

(a)1/2 blue, 1/2 white?

(b)2/4 blue, 2/4 white?

(c)3/8 blue, 5/8 white?

(d) 4/8 blue, 4/8 white?

Mark (X) on the wrong answer.

Ans.(c) is the wrong answer

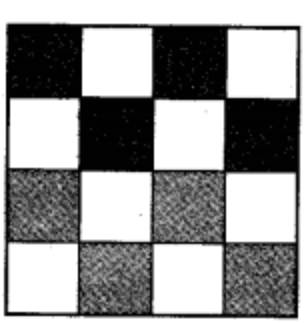
3.Draw grids of 16 squares and make patterns with

(a)2/8 red, 1/2 yellow, 1/4 green

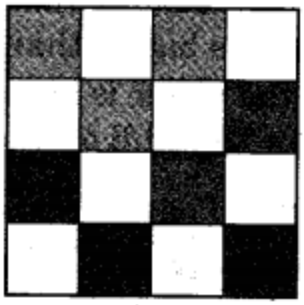
(b)3/16 blue, 5/16 red, 1/2 yellow

Ans.(a) The following figure (Fig. a) shows 2/8 red, 1/2 yellow and 1/4 green

(b) The following figure (Fig. 6) shows 3/16 blue, 5/16 red and 1/2 yellow.



(a)



(b)

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Ramu's Vegetable Field

1.Ramu's vegetable field has 9 equal parts. What vegetables does he grow?

Ans. He grows potatoes, brinjals, tomatoes, chillis and spinach.

2.Which vegetable grows in the biggest part of his field? What part?

Ans. Tomatoes grow in the biggest part of his field. It grows in the 173rd part of his field.

3.On what part of the field does he grow potatoes?

Ans. He grows potatoes on 2/9 part of the field.

4.What part of the field is used to grow spinach? What part is used for brinjals?

Ans. 1/9 part is used for growing spinach and 2/9 part is used for brinjals.

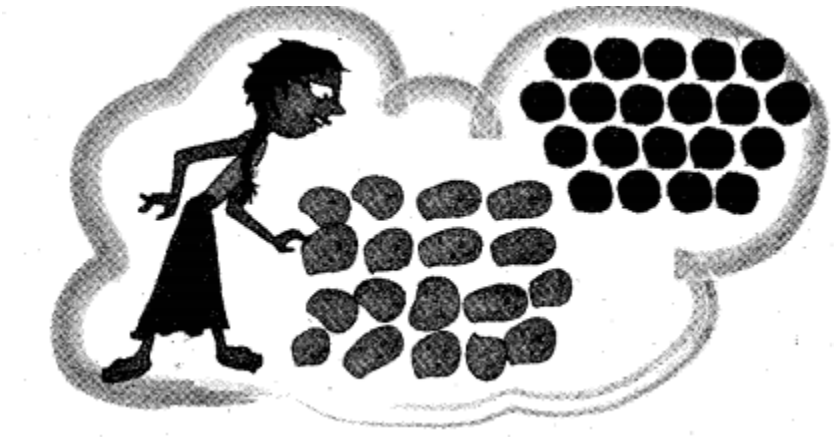
5.Now write some questions by looking at this picture.

Questions

- **What part of the field is used for growing chillis?**
- **Which two vegetables are grown on equal part of the field?**

Ramu wanted to give these vegetables to his friends. He gave Aboobacker one-fifth of these tomatoes and 1/3 of the potatoes. Srija got 2/5 of the tomatoes and

3/6 of the potatoes. Nancy got the rest of these vegetables. Circle Aboobacker's share in blue. Circle Srija's share in yellow.



Ans. Number of tomatoes = 20

Aboobacker's share of tomatoes = 1/5 of 20 = 4

Srija's share of tomatoes = 2/5 of 20 = 8

Nancy's share of tomatoes = 20 – (4 + 8) = 20 – 12 = 8

Number of potatoes = 18

Aboobacker's share of potatoes = 1/3 of 18 = 6

Srija's share of potatoes = 3/6 of 18 = 9

Nancy's share of potatoes = 18 – (6 + 9) = 18 – 15 = 3

6.How many potatoes and tomatoes did Nancy get?

Ans. Nancy got 3 potatoes and 8 tomatoes.

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Game: Who Colours the Circle First?
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1.Who won the game?

Ans. The player who got most of the tokens from 1/12, 2/12, 3/12, etc.

2.What are the winner's tokens?

Ans. Winner's tokens are 1/12, 2/12, 3/12, etc.

3.Write the tokens you got.

Ans. Assuming that I am the winner; I got the tokens 1/12, 2/12, 3/12, etc.

4.What part of the circle did you colour?

Ans. I coloured 1 + 2 + 3 = 6 segments initially.

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Guess and Check

(a)What part of each shape is coloured?

First guess the answer, then check.

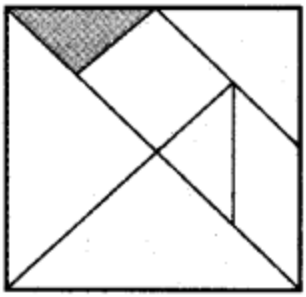
Ans. Shape 1. By guessing: 1/8 By checking: 1/8

Shape 2. By guessing: 1/6 By checking: 1/6

Shape 3. By guessing: 2/9 By checking: 2/9

Shape 4. By guessing: 4/15 By checking: 4/15

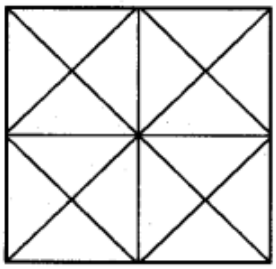
(b)Do you remember this picture? Look at the small . triangle. What part of the square is it? How will you



find this out?Divide the big triangles and other shapes into small triangles (like the red one). How many small triangles are there altogether?

Ans.

Yes, I can recall this picture.
The coloured small triangle is 1/16 part of the square.
To get this, we should follow these steps:
Divide the square into small triangles as shown in this figure. The total number of small triangles is 16.



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Cutting the Halwa

Ramesh bought a piece of halwa for his children Ammu and Anu. He divided it equally for them.

1.Each will get——-part of halwa.

Ans.1/2

2.This piece is too big. We can't eat it", they said.

So he divided the pieces into half again. Now how many pieces will Arm mi get?

Ans. 2 pieces.

3.What part of the halwa is it?

Ans. 2/4 or 1/2

"Make it even smaller, Da", they asked.

So he again cut the halwa into smaller pieces.

"Ok, thank you, Dad."

4.Now how many pieces will each get?

Ans. Now they will get 4 pieces each.

5.What part of the halwa is each piece now?

Ans. 1/8 part.

6.If Ramesh had cut the halwa into 6 equal parts how many pieces would each have got? Look at your answers for questions 1 to 4 and write:

1/2=……..=……..=……..=……..=……

Ans. Each would get 3 pieces.

1/2=2/4=3/6=4/8=5/12=6/12

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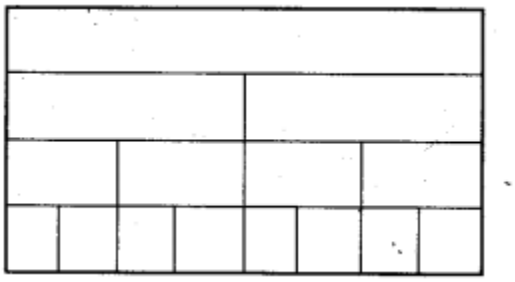
Parts of the Strip

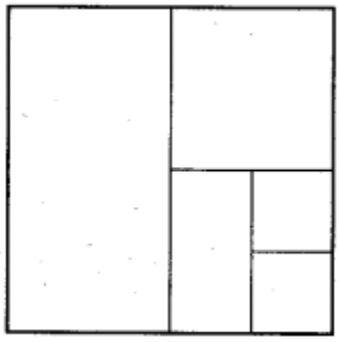
Look at the picture. Write what part of the strip is each green piece. Write the part for a piemce of each colour.



- **How many one-fourths will make a half?**
  Ans. Two one-fourths will make a half.
- **How many 1/8 will make 1/4?**
  Ans. Two 1/8 will make 1/4.

Patterns

Look at this square.



1.What part is coloured blue?

Ans. 1/8 part.

2.What part is green?

Ans. 1/16 part.

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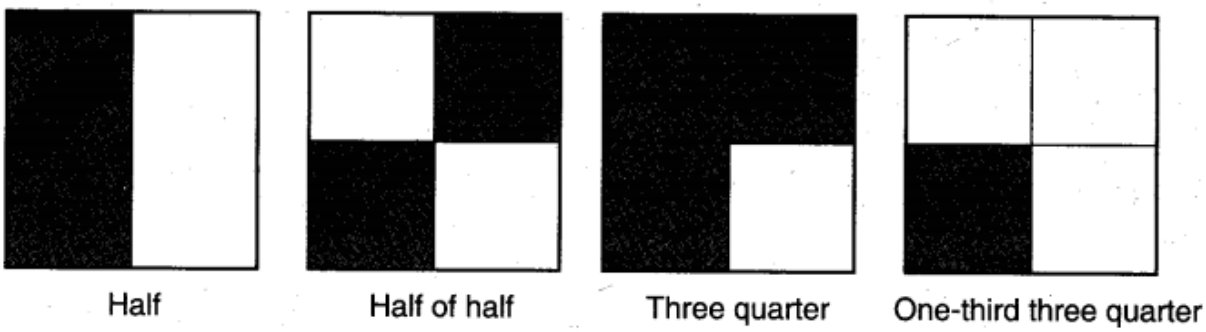
Puzzle: Is it Equal?

1. Ammini says half of half and one-third of three-quarters are equal. Do you agree? How will you show this?

Ans. Yes, Ammini,is right. This can be shown by following pictures.



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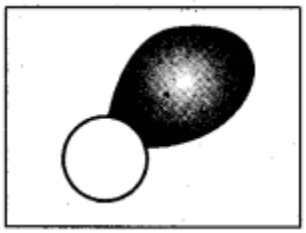
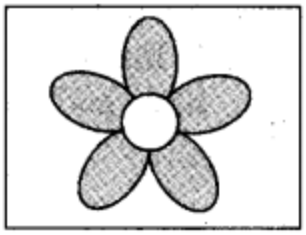
From A Part to the Whole

1.This show 1/5 petals of a flower. Complete the flower by drawing the other petals.

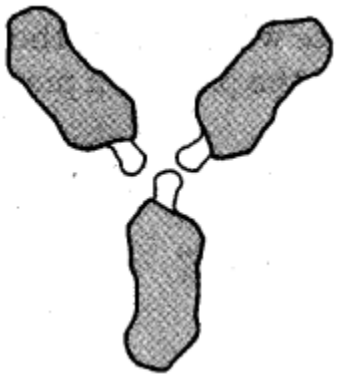


Ans. Here, we have 1/5 part of petals. So, a complete flower will have 5 such petals.

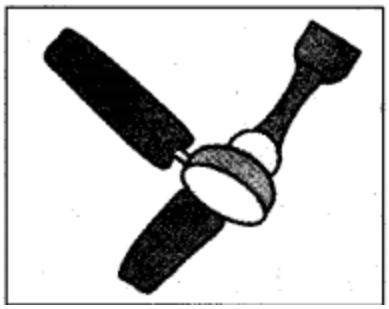


2.The picture shows one-third of the blades of a fan. Complete the picture by drawing the other blades.

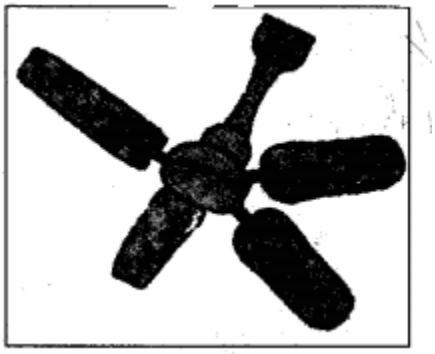
Ans. The complete picture will look like the given picture.



3.Half of the blades of another fan are shown here. Complete the picture by drawing the other half. How many blades have you drawn?



Ans. The complete picture will look like the given picture. I have drawn two more blades.



Rupees and Paise

1.

How many 50 p  will make one rupee?

Ans. Two 50 paise coins will make one rupee.

2.

How many 25 p  will make one rupee?

Ans. Four 25 paise coins will make one rupee.

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An Old Woman's Will

1.How did this happen? Discuss.

Ans. By adding the aunt's camel, the number of camel became 20.

First daughter's share = 1/2 of 20

= 1/2 x 20 = 10

Second daughter's share = 1/4 of 20

= 1/4×20 = 5

Third daughter's share = 1/5 of 20

= 1/5 x 20 = 4

Finally, 10 + 5 + 4 = 19 which is equal to the original number of camels. Although this calculation is not correct mathematically, but nevertheless it solved the problem of three sisters.

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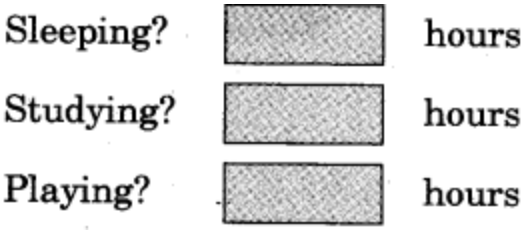
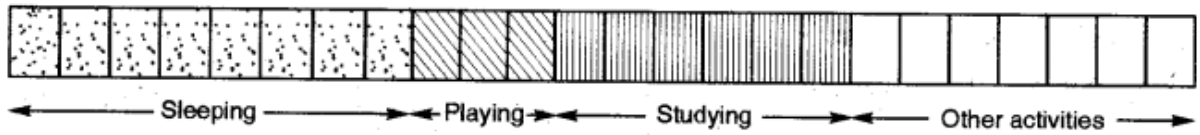
Aran's Time Table

1.How many hours does Arun take for



One day is 24 hours. The how will I find out one third of a day? What part of the day does he use for other activities?

Ans. Arun's time-table is shown below.



Arun sleeps from 10 p.m. to 6 a.m. and hence he sleeps for 8 hours in day.

Arun plays from 7 to 8 a.m. which is one hour duration and again from 4 to 6 p.m. which is a two hour duration. Hence, Arun plays for 3 hours in a day. Arun studies for 1/4 part of the day, and hence studies for 1/4 of 24 hours; which is equal to 6 hours.

8 + 3 + 6 = 17 hours

Time spent in other activities = 24 – 17 = 7 hours

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School Magazine

1.A school has decided to bring out a magazine every quarter of a year. How many magazines will they have in a year? If they want to print it at the end of each quarter of a year, which are the months for printing. Mark the number for those months.

1	2	3	4	5	6	7	8	9	10	11	12

Ans. They will have 4 magazines in a year.

The magazines will be printed in the months of March, June, September and December.

Number for these months can be marked as follows:

1	2	**3**	4	5	**6**	7	8	**9**	10	11	**12**

Sleeping Beauty!

1.Have you heard of Kumbhakarha, the brother of Ravana? He is famous for sleeping for half a year.Most people sleep about 8 hours a day. Then what part of a day is it?

So what part of a year do they sleep? A person 60

years old must have slept——years!!!

Ans. Yes, I have heard of Kumbhakarna, the brother of Ravana.

It is 8/24 = 1/3 part of a day.

People sleep for 1/3 part of a year.

A person 60 years old must have slept for;

1/3 of 60 = 1/3 x 60 = 20 years.

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Keerti's Shopping List

1.Look at the yellow price list:

(a)How much does 2 kg of tomato cost?

(b)How much does 1/2 kg of tomato cost?

(c)Kiran wants 214 kg of tomato. How much will it cost?

(d) How much does 314 kg potato cost?

(e)What is the price of 114 kg of carrot?

(f)He bought a gourd of weight 4% kg and it costs

(g)Look at the shopping list in Keerti's hand. How much will she have to pay to buy all of these?

(h) Make a bill of your own for vegetables you want to buy. Find the total money you will have to pay?

Ans. (a) 1 kg of tomato costs Rs 12

Hence, 2 kg of tomato costs 2 x 12 = 24 rupees

(b) 1/2 kg tomato costs 1/2 x 12 = 6 rupees

(*c*) 2½ kg tomato costs 2½ × 12
= 2 × 12 + 1/2 × 12
= 24 + 6 = 30 rupees

(*d*) 1 kg potato costs ₹ 10
Hence, 3½ kg potato costs 3½ × 10
= 3 × 10 + 1/2 × 10
= 30 + 5 = 35 rupees

(*e*) 1 kg carrot costs ₹ 18
Hence, 1¼ kg carrot costs 1¼ × 18
= 1 × 18 + 1/4 × 18
= 18 + 4.50 = 22.50 rupees

(*f*) 1 kg gourd costs ₹ 8
Hence, 3¼ kg gourd costs 3¼ × 8
= 3 × 8 + 1/4 × 8
= 24 + 6 = 30 rupees

(*g*) Keerti's shopping list is as follows:

Item	*Price per kg*	*Total price*
Potato 2¼ kg	10	2 × 10 + 1/4 × 10 = 20 + 2.50 = 22.50
Carrot 3¼ kg	18	3 × 18 + 1/4 × 18 = 54 + 13.50 = 67.50
Gourd 1½ kg	8	1 × 8 + 1/2 × 8 = 8 + 4 = 12
	Total	₹ 102

(*h*) My own shopping bill:

Item	*Price per kg*	*Total price*
Potato 1½ kg	10	1 × 10 + 1/2 × 10 = 10 + 5 = 15
Onion 1/2 kg	16	1/2 × 16 = 8
Tomato 1/4 kg	12	1/4 × 12 = 3
Carrot 1½ kg	18	1/2 × 18 = 9
	Total	₹ 35

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Practice Time

At the railway station:

1.Your attention please. Mangalore Express coming from Mangalore and going to Thiruvananthpuram is now running late by half an hour.

Oh the train is late today. The right time is quarter to 7.

(a)What time is the train expected to come today?

(b) Nazia gets off at a station after 2(1/2) hours from this station. What time will she get off?

(c) Shaji will take 5 hours to reach Ernakulam by this train. At what time will he reach there?

Ans. (a) The right time is 6 : 45

The train is 30 minutes late Hence,

the expected arrival time is 6 : 45 + 0 : 30 = 7 : 15

The train will arrive at quarter past 7.

(b)Nazia's time after 2(1/2)hours

= 7 : 15 + 2 : 30 = 9:45

Nazia will reach at quarter to 10

(c)Shaji's time after 5 hours

= 7 : 15 + 5 : 00

= 12 : 15

Shaji will reach at quarter past 12.

Chapterwise NCERT Solutions for Class 5 Maths :

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