

NCERT Solutions for Class 4 Maths Chapter 13: NCERT Solutions for Class 4 Maths Chapter 13 Fields and Fences focuses on understanding the concept of perimeter and its practical applications. It introduces students to measuring the boundary length of various shapes, like squares, rectangles, and irregular figures, using simple units of measurement.

Through engaging problems, children learn how to calculate the perimeter of different objects such as fields and fences. The chapter emphasizes real-world scenarios where perimeter knowledge is useful, like fencing a garden or measuring land. It encourages critical thinking by incorporating fun activities and examples, enhancing conceptual clarity and practical understanding of measurement.

NCERT Solutions for Class 4 Maths Chapter 13 Overview

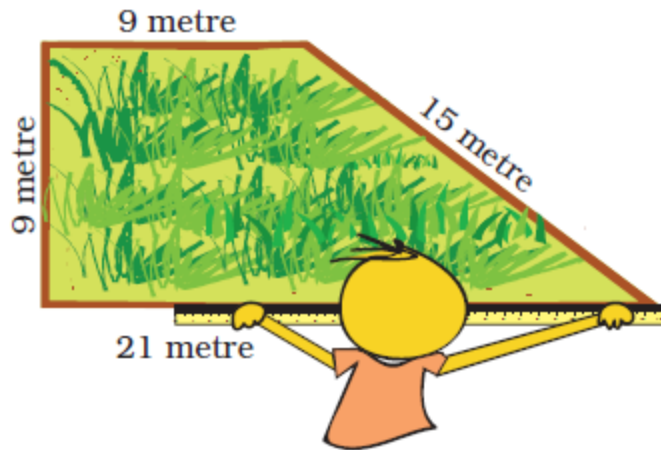
NCERT Solutions for Class 4 Maths Chapter 13 Fields and Fences, introduces students to the concept of perimeter, which is the total length of the boundary of a shape. The chapter is designed to help young learners grasp this fundamental concept through practical examples and relatable situations. It begins by explaining how to measure the perimeter of basic geometric shapes like squares and rectangles, where students use simple counting methods or addition of side lengths to find the total boundary.

The chapter also dives into real-life applications, like fencing a field or measuring the boundary of a playground. It encourages students to think about how perimeter is used in everyday life. There are problems where students are asked to calculate the perimeter of irregular shapes, introducing the idea that perimeter isn't limited to simple figures but applies to all sorts of objects.

NCERT Solutions for Class 4 Maths Chapter 13 Fields and Fences

Here we have provided NCERT Solutions for Class 4 Maths Chapter 13 Fields and Fences -

1. Rahmat needs to find the length of the boundary of the field. Can you find it from this picture? See the length of each side written near it.



Answer-

We know that the length of the boundary = $9 + 15 + 21 + 9$

= 54 metre

2. Rahmat bought a roll of 70m wire for the fence.

Ganpat – Can you give me the wire that is left out with you? I will use it for my field. How much wire did Rahmat give to Ganpat?



Answer-

It is given that the total length of wire = 70 m

Length of wire used by Rahmat for boundary = 54 m

So the length of wire left out = $70 - 54 = 16$ m

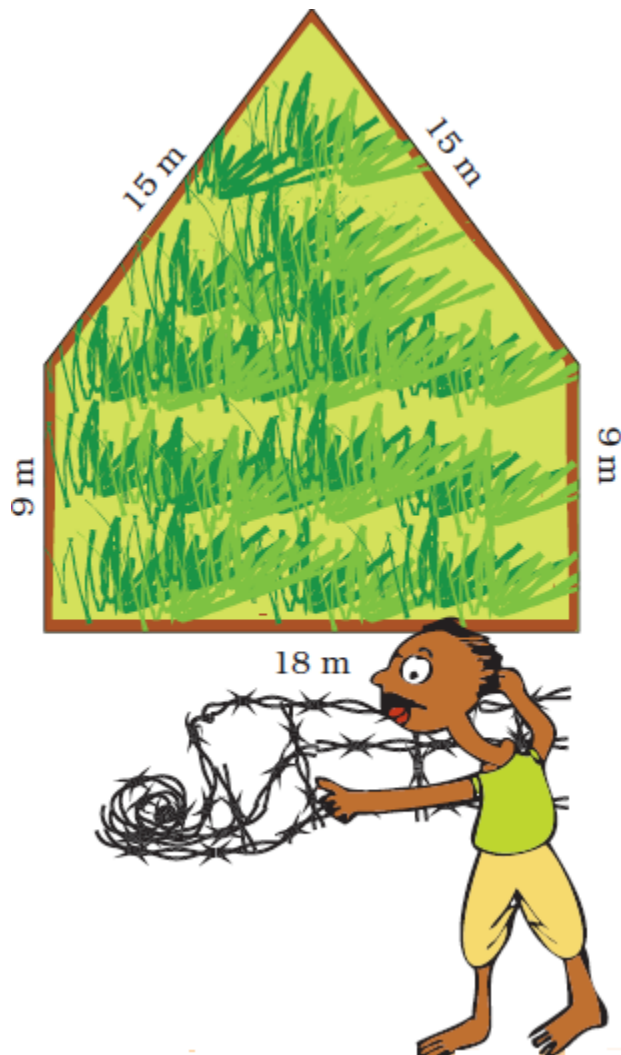
Hence, Rahmat gave 16 m of wire to Ganpat.

NCERT Textbook Page No. – 150

3. Ganpat thanked Rahmat and started fencing his own field. But he needed to get more wire.

(a) How long is the boundary of Ganpat's field?

(b) How much more wire will Ganpat need for his field?



Answer-

(a) Here, the length of the boundary of Ganpat's field = $9 + 15 + 15 + 9 + 18$

= 66 m

(b) We know that length of the boundary of Ganpat's field = 66 m

If Rahmat gave 16m wire to Ganpat

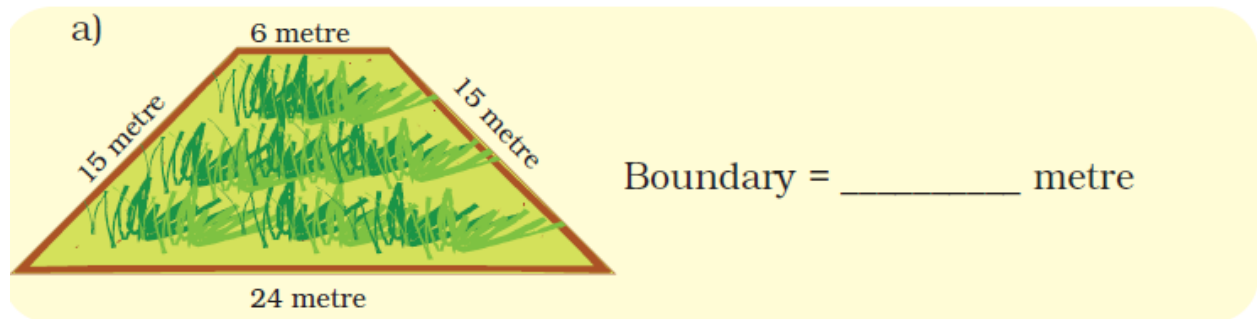
Need of more length of wire = $66 - 16 = 50$ m

Hence, Ganpat needs 50 m more wire to boundary his field.

NCERT Textbook Page No. – 151

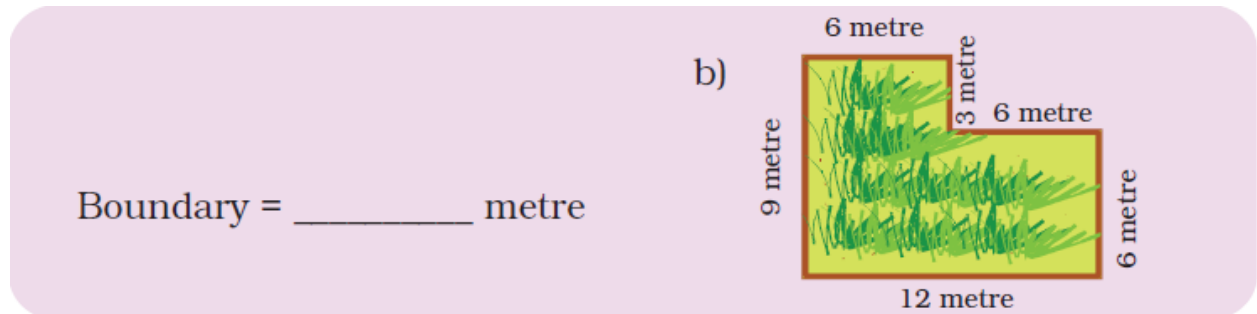
Practice Time

1. Here are pictures of some more fields. Find out which one has the longest boundary.



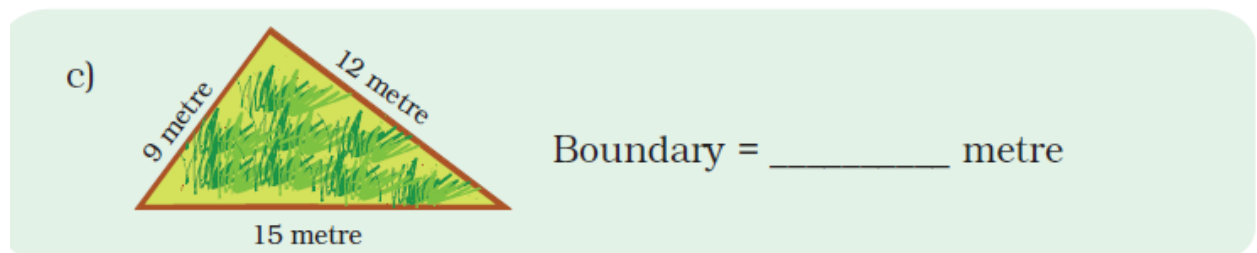
Answer-

Here we know that the length of boundary = $15 + 6 + 15 + 24 = 60$ m



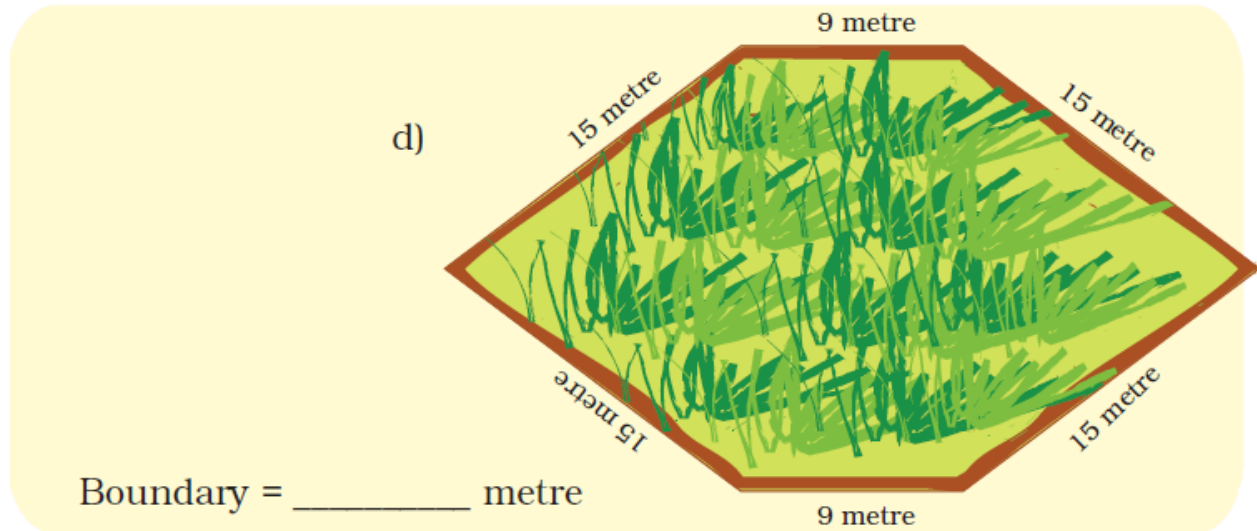
Answer-

Here we know that the length of the boundary = $9 + 6 + 3 + 6 + 6 + 12 = 42$ m



Answer-

Here we know that length of boundary = $9 + 12 + 15 = 36$ m



Answer-

Here we know that the length of the boundary = $15 + 15 + 9 + 15 + 15 + 9 = 78$ m

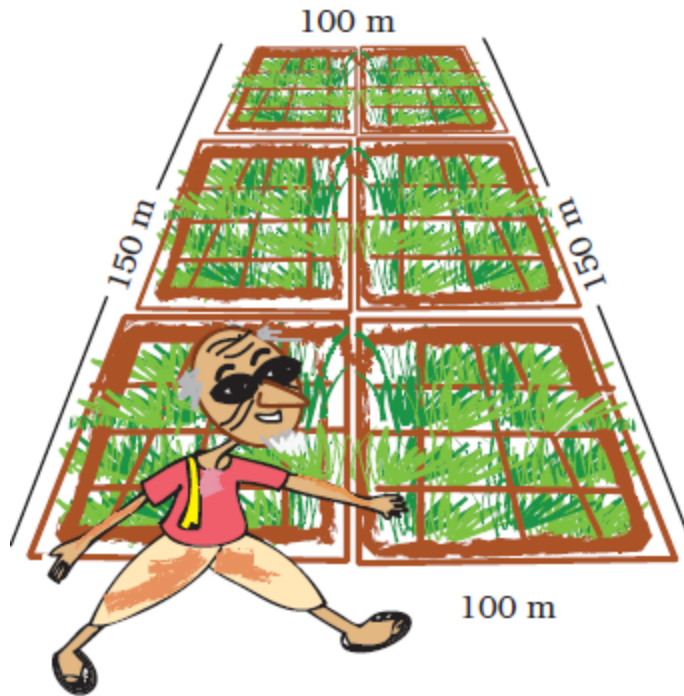
Hence, field (d) has the longest boundary.

NCERT Textbook Page No. – 152

2. Chandu's father is called the 'young old man' in his village. At 70 years of age, he is fully fit. Do you know his secret? He goes for a walk around the field every morning. Every day he takes four rounds of Chandu's field.

What is the total distance he covers?

$4 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ m} = \underline{\hspace{1cm}} \text{ km}$



Answer-

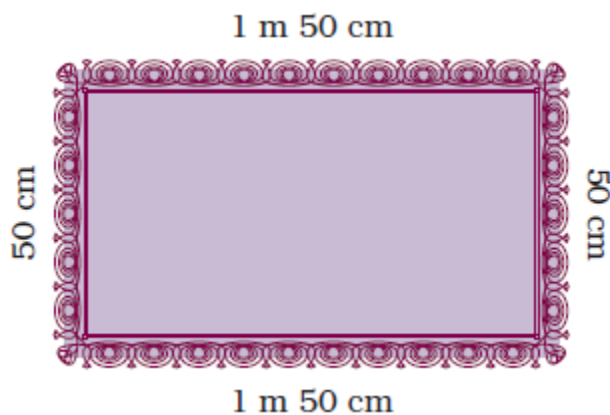
We know that the boundary of the field = $150 + 100 + 150 + 100 = 500$ m

So the distance covered by the 'young old man' = $4 \times 500 = 2000$ m = 2 km

3. Ganpat's wife works in a tailor's shop. She has to fix lace around a table cloth.

She bought a 100 metre roll of lace.

(a) Look at the picture of the table cloth and tell how much lace is used for one table cloth.



(b) How much lace will be used in 3 such tablecloths?

(c) How much lace will be left in the roll?

Answer-

(a) We know that

$$1 \text{ m } 50 \text{ cm} = 100 \text{ cm} + 50 \text{ cm} = 150 \text{ cm}$$

$$\text{So the length of lace required for one tablecloth} = 150 + 50 + 150 + 50$$

$$= 400 \text{ cm} = 4 \text{ m}$$

(b) We know that the requirement of lace for 1 tablecloth = 4 m

$$\text{Requirement of lace for 3 table cloth} = 4 \times 3 = 12 \text{ m}$$

(c) It is given that

$$\text{The total length of lace} = 100 \text{ m}$$

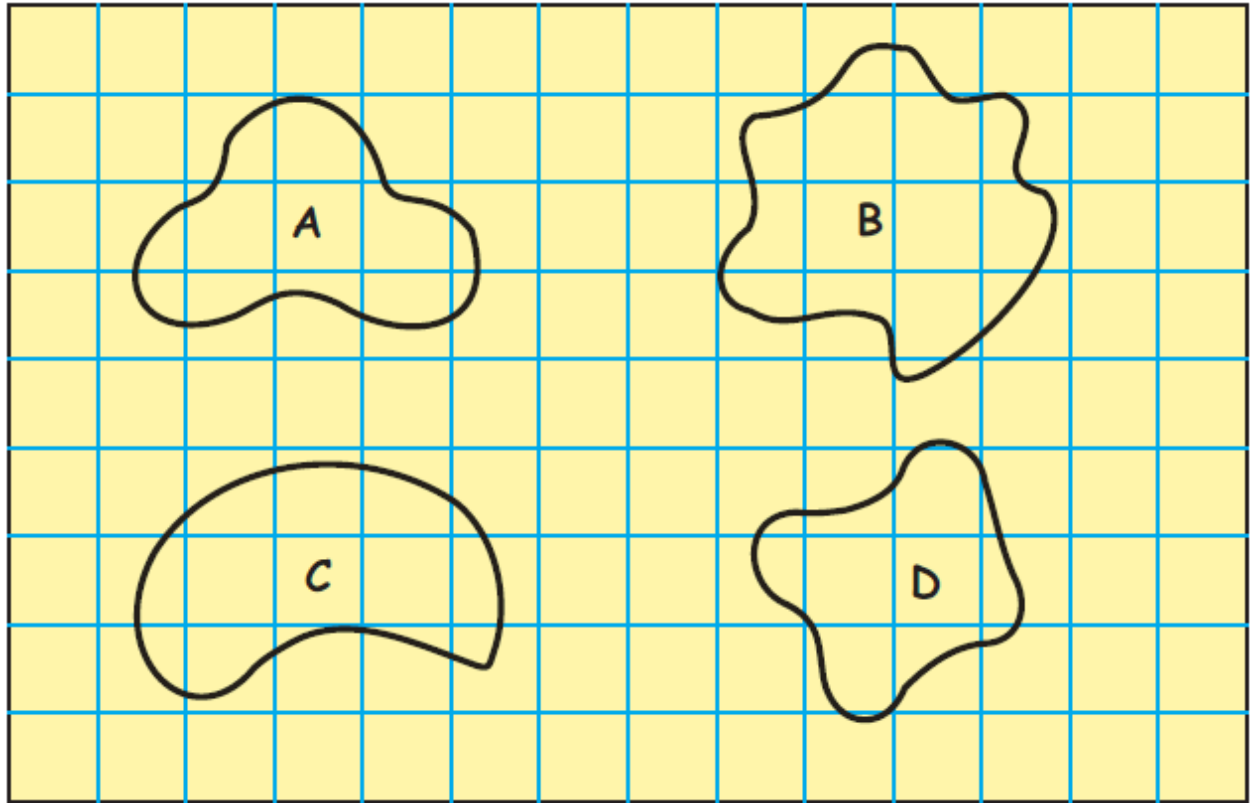
$$\text{Requirement of lace for 3 table cloth} = 12 \text{ m}$$

$$\text{Lace left out after making 3 table cloths} = 100 - 12 = 88 \text{ m}$$

NCERT Textbook Page No. – 153

Activity

1. Find out the length of the boundary of these shapes. (Hint:- You can use a thread)



Now count the squares to find out:

- (a) How many squares are there in each shape?
- (b) Which shape covers the least number of squares?
- (c) Which shape covers the greatest number of squares?

Answer-

To determine the length of the shapes' boundaries, refer to the figure –

- Grab a strand.
- Now, cover the figure with the thread along the edge.
- Cut the remaining thread, making sure to cover the figure's exact border.
- Determine the thread's length.

Apply the same method to every figure.

- (a) We know that

Number of complete squares in figure A = 1

Number of complete squares in figure B = 2

Number of complete squares in figure C = 3

Number of complete squares in figure D = 2

(b) Figure A is the shape which covers the least number of squares which is 1.

(c) Figure C is the shape which covers the most number of squares which is 3.

2. Take a 20 centimetre long thread. Make different shapes by joining the ends. Place the squared sheet on the next page. Find out:

(a) How many squares are there in each shape?

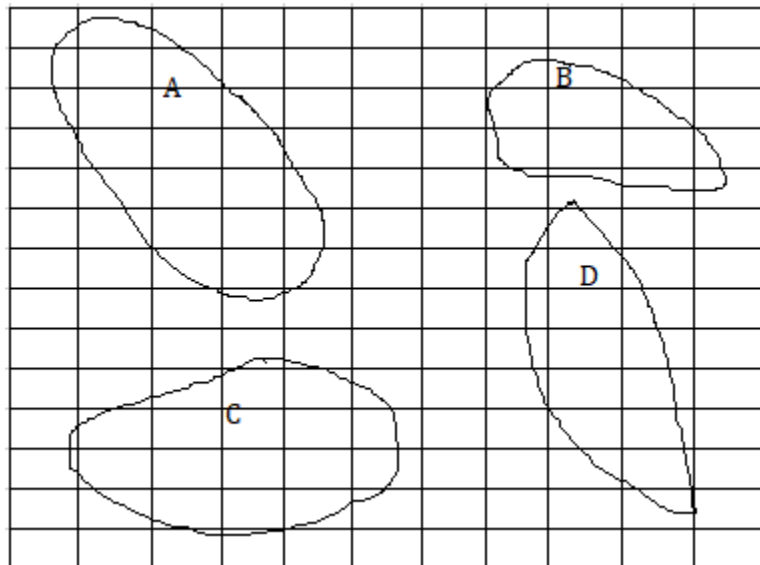
(b) Which is the biggest shape?

(c) Which is the smallest shape?

(d) How long is the boundary of each shape?

Answer-

The thread is placed on the squared sheet to produce the following various shapes:



(a) 9 complete squares are present in figure A, 3 complete squares are present in figure B, 6 complete squares are present in figure C, and 4 complete squares are present in figure D.

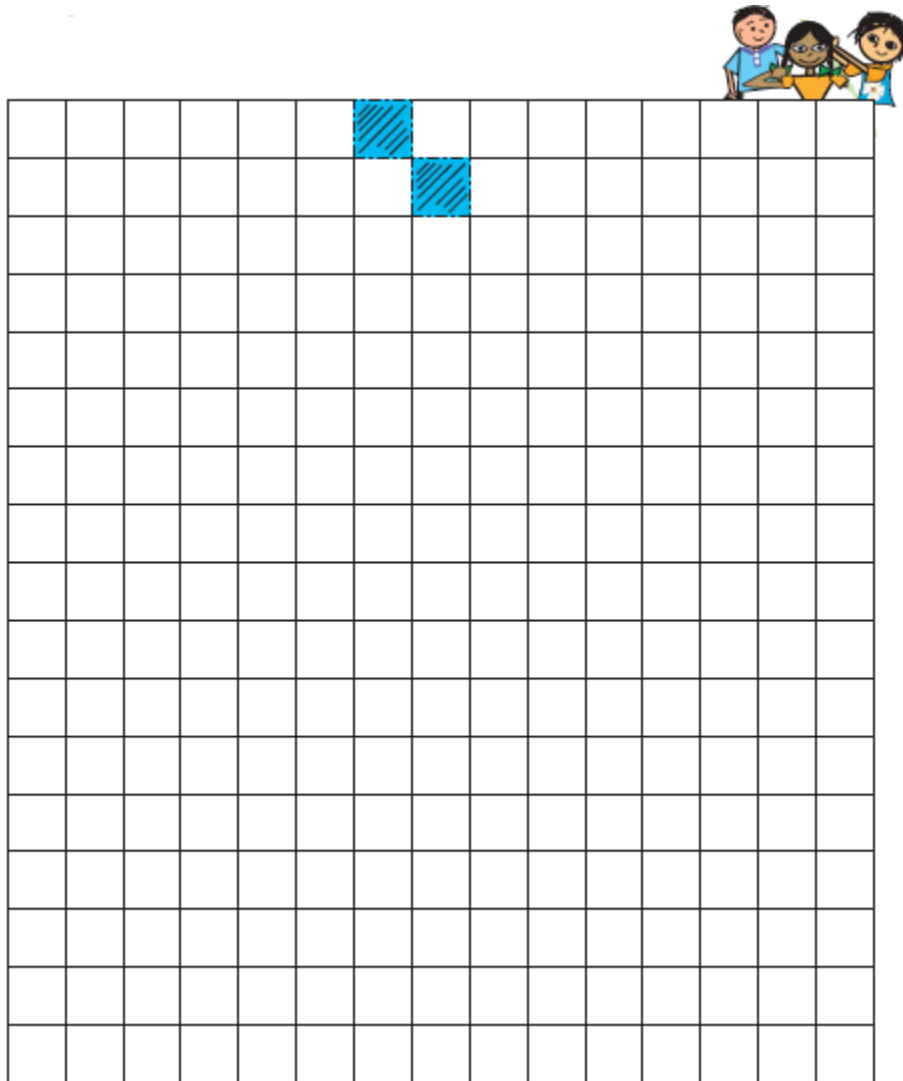
(b) The biggest shape is figure A.

(c) The smallest shape is figure B.

(d) We can measure the boundary of each shape by placing thread along them.

NCERT Textbook Page No. – 154

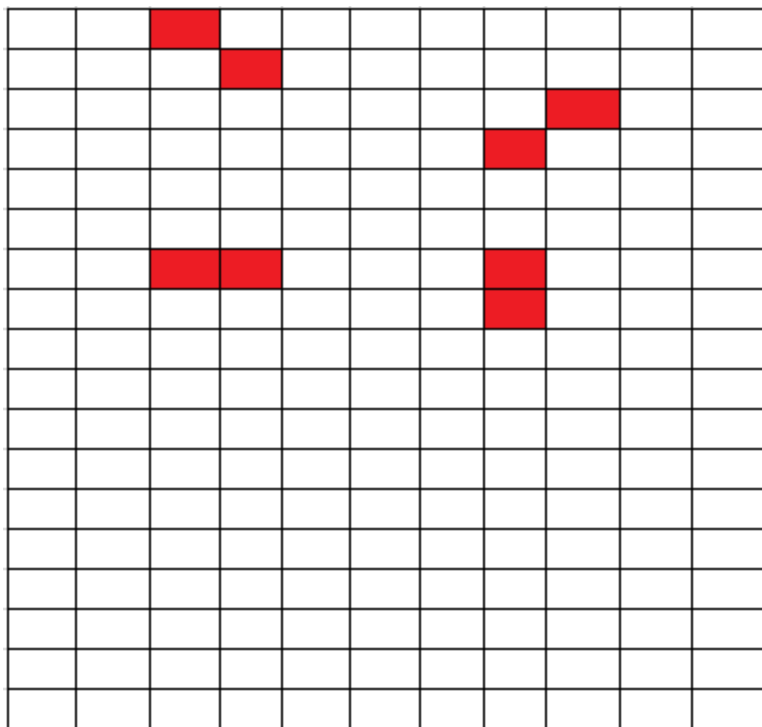
3. How many different shapes can you make by joining two squares? Draw them on the squared sheet given below. How long is the boundary of each shape?



Try this activity with three squares also.

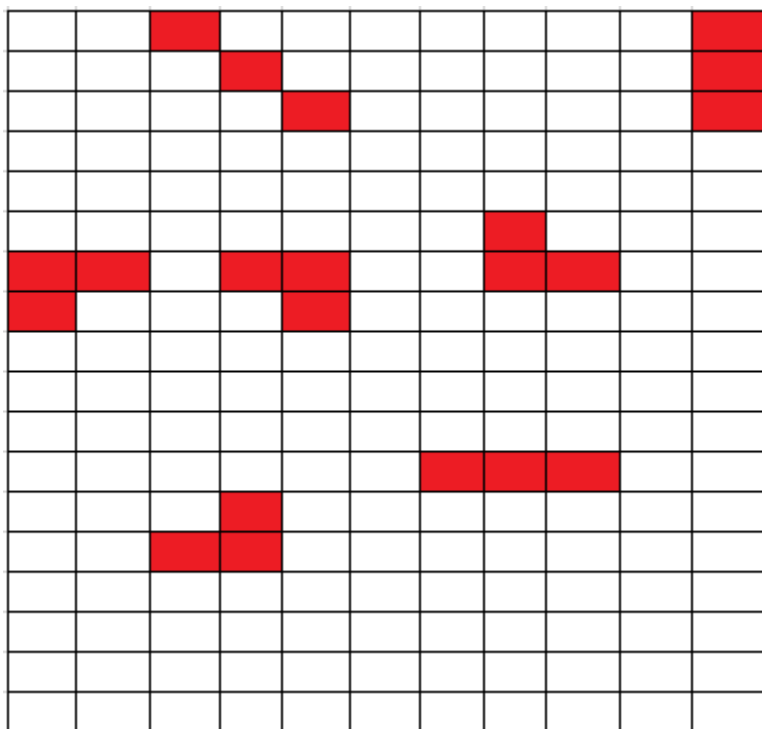
Answer-

The shapes done by joining two squares are given below.



Here four types of shapes can be done by joining two squares.

The shapes done by joining three squares are given below.



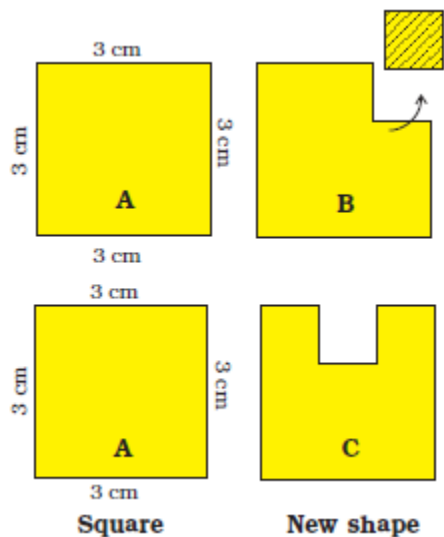
Here seven types of shapes can be done by joining three squares.

Practice Time

1. A square has a boundary of 12 cm.

(a) From the corner of this square, a small square of side 1 cm is cut off. Will the boundary of B be less or more? Find its length.

(b) If you cut a 1 cm square to get shape C, what will be the length of the boundary of C?



Answer-

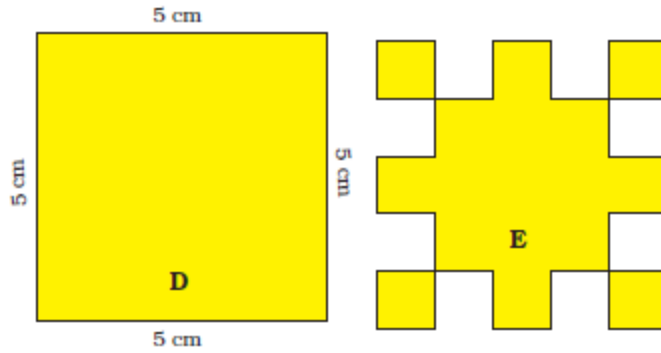
(a) We know that the boundary of shape B is equal to the boundary of shape C.


So the boundary of shape B = 12 cm

(b) Here, the boundary of shape C will be equal to 14 cm.

2. (a) Find the length of the boundary of square D.

(b) 8 squares of side 1 cm are cut out of square D. Now it looks like shape E. What is the length of the boundary of shape E?



(c) The boundary of this  is ____ + ____ + ____ + ____

Can we also say that the boundary is $4 \times 1 \text{ cm}$?


Answer-

(a) The length of the boundary of square D = $5 + 5 + 5 + 5 = 20 \text{ cm}$


(b) We know that there are 21 edges measuring 1 cm in shape E

Therefore, the boundary of shape E = $1 \times 21 = 21 \text{ cm}$

(c) The boundary of this

 is $1 + 1 + 1 + 1 = 4 \text{ cm}$

Here, the boundary of

 = $4 \times 1 \text{ cm}$.

NCERT Textbook Page No. – 156

3. A hockey field is 91 metres 40 cm long and 55 metres wide. How long is the boundary of the field?

Answer-

We know that the length of the field = 91 m 40 cm

It can be written as

$$= 9100 + 40$$

$$= 9140 \text{ cm}$$

Width of the field = 55 m = $55 \times 100 = 5500$ cm

Here

Boundary = length + width + length + width

Substituting the values

= $9140 + 5500 + 9140 + 5500$

= 29280 cm

= 292 m 80 cm

4. Usha and Valsamma are running a race. Usha is running on the inner circle. Valsamma is running on the outer circle.

Valsamma runs faster than Usha. But still she loses the race. Can you guess why?



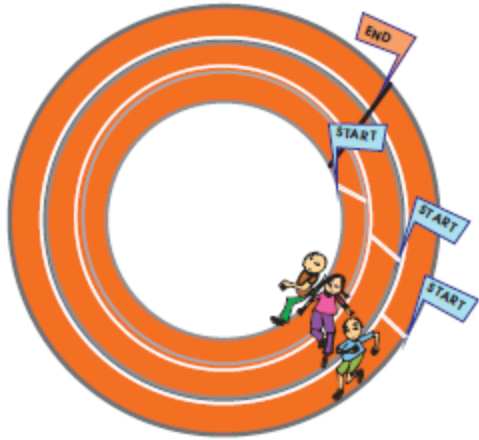
Answer-

We know that the inner circle has a shorter boundary when compared to the outer circle.

Valsamma runs on the outer circle and has to cover more length.

Hence, Valsamma loses the race.

5. Have you seen any race where runners start from different places – like in this picture? Guess why?



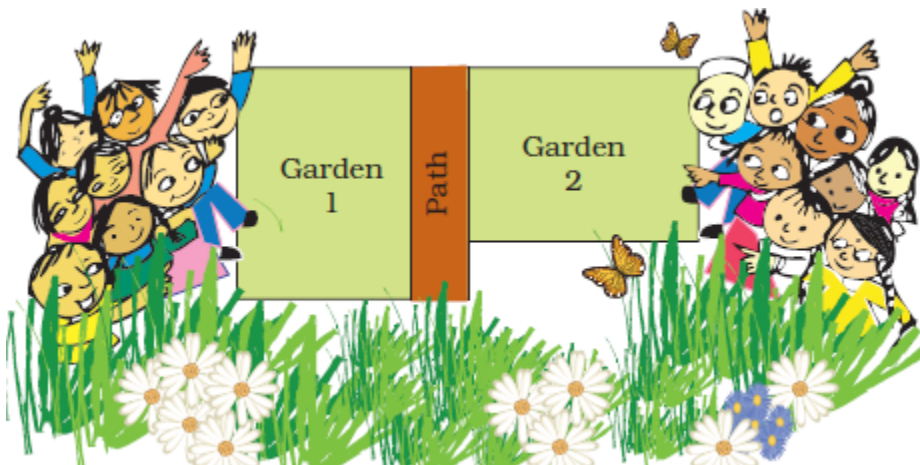
Answer-

Yes, I have witnessed the event, which takes place on a circle course. The way it is made ensures that the distances are equal.

NCERT Textbook Page No. – 157

School Garden

The students of Class III and IV thought of making a vegetable garden. They chose a place which looked like this.



Students of both the classes thought that garden 1 was bigger. So both wanted to take garden 1. Suddenly Neetu said –



1. How will Neetu find out if the two gardens are equally big?

Answer-

To measure the length, Neetu first runs a long rope along garden 1's edge.

To measure the length, she runs the rope around garden 2's perimeter once more.

She then discovered that the two gardens' borders are equal.

Both gardens are therefore equal.

NCERT Textbook Page No. – 158

Activity

1. Look at the table in your classroom. Guess how many Math-Magic books you can place on it. (Remember – The books should not overlap. Do not leave gaps between the books.)

(a) Write your guess here.

(b) Now check if your guess was right. How many books could you place?

(c) What is the difference between your guess and the actual number of books?



Answer –

- (a) 8 Math-Magic books can be placed on the table.
- (b) 8 Math-Magic books can be placed on the table.
- (c) The difference between your guess and the actual number of books is zero.

2. Now look for another table.

- (a) Is this table bigger than the last table? Yes/ No
- (b) Make a guess how many Math-Magic books can be kept on this table.
- (c) Check if your guess was correct.

How many Math-Magic books could you keep?

- (d) The difference between the sizes of the two tables is ____ books.

Answer-

- (a) Yes. This table is bigger than the last table.
- (b) 12 Math-Magic books can be kept on this table.
- (c) 10 Math-Magic books could be kept on the table.

(d) The difference between the sizes of the two tables is 2 books.

3. (a) How many Math-Magic books can be covered with one sheet of newspaper?

(b) Try covering your Math-Magic book with half a sheet of newspaper.

(c) Can you cover your book with a smaller sheet?

(d) Find the smallest sheet which can cover your book. Check if your friend used a smaller sheet than you did.

Answer-

(a) 4 Math-Magic books can be covered with one sheet of newspaper.

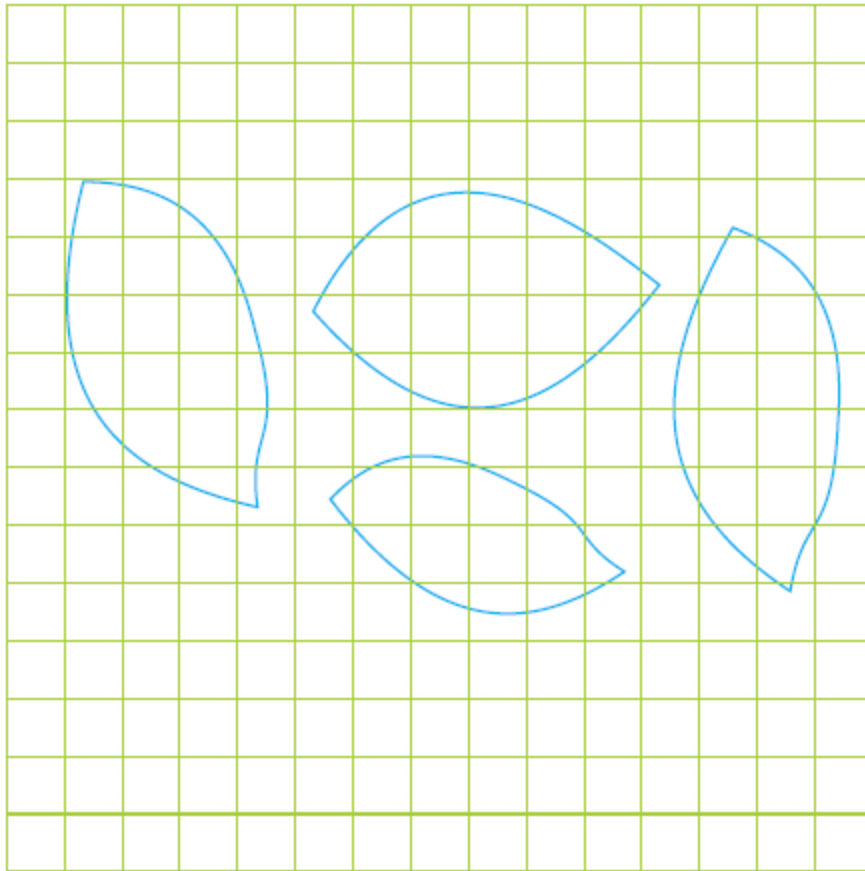
(b) Should be done by the students.

(c) Yes, we can cover the book with a smaller sheet.

(d) Should be done by the students.

NCERT Textbook Page No. – 159

4. (a) Which is the biggest leaf in this picture?



(b) Collect some leaves from the garden. Place each of them here on this squared sheet. Trace out their edges and check how many squares there are in each leaf.

(c) Which is the biggest leaf?

(d) Which is the smallest leaf?

Answer-

(a) The biggest leaf in this picture is the leaf in the middle from the top.

(b) Should be done by the students.

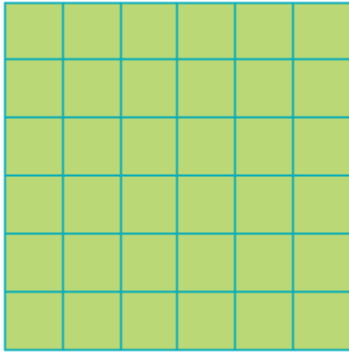
(c) Should be done by the students.

(d) Should be done by the students.

NCERT Textbook Page No. – 160

5. (a) How many small squares of size 1 cm are there in this big green square?

(b) Can you think of a faster way to know the total number of small squares without counting each?



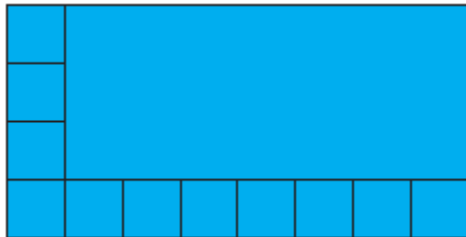
Answer-

(a) 36 small squares of size 1 cm are there in this big green square.

(b) We know that 6 small squares are present at the sides of the big square.

Total number of small squares = $6 \times 6 = 36$

6. Guess how many squares of one centimetre can fill this blue rectangle.

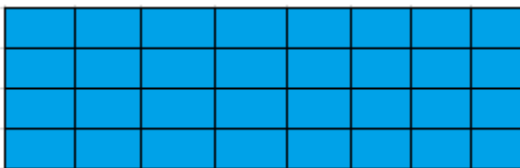


Write your guess here.

Check your guess by filling it with small squares.

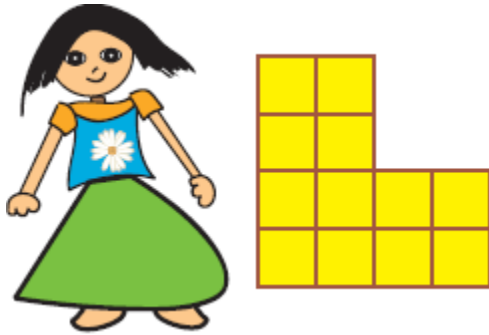
Answer-

Here, 32 small squares can fill this blue rectangle.



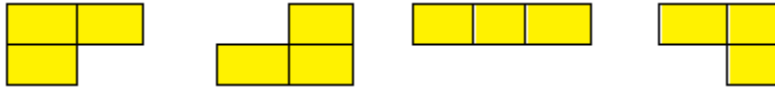
There are 32 squares, and the guessed answer is right.

7. Look at the picture. Can you divide it into 4 equal pieces? Each piece should have the same number of squares.



Answer-

Yes we can divide the picture into 4 equal pieces.



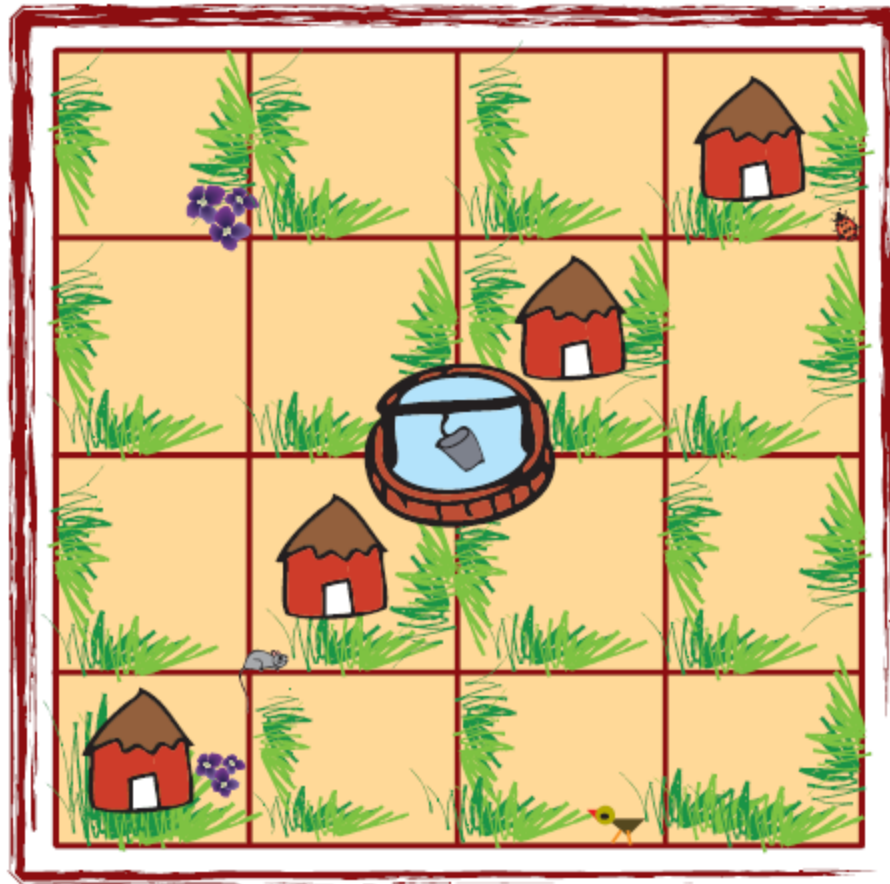
NCERT Textbook Page No. – 161

Puzzle: A House and the Well

Raghavan has a piece of land.

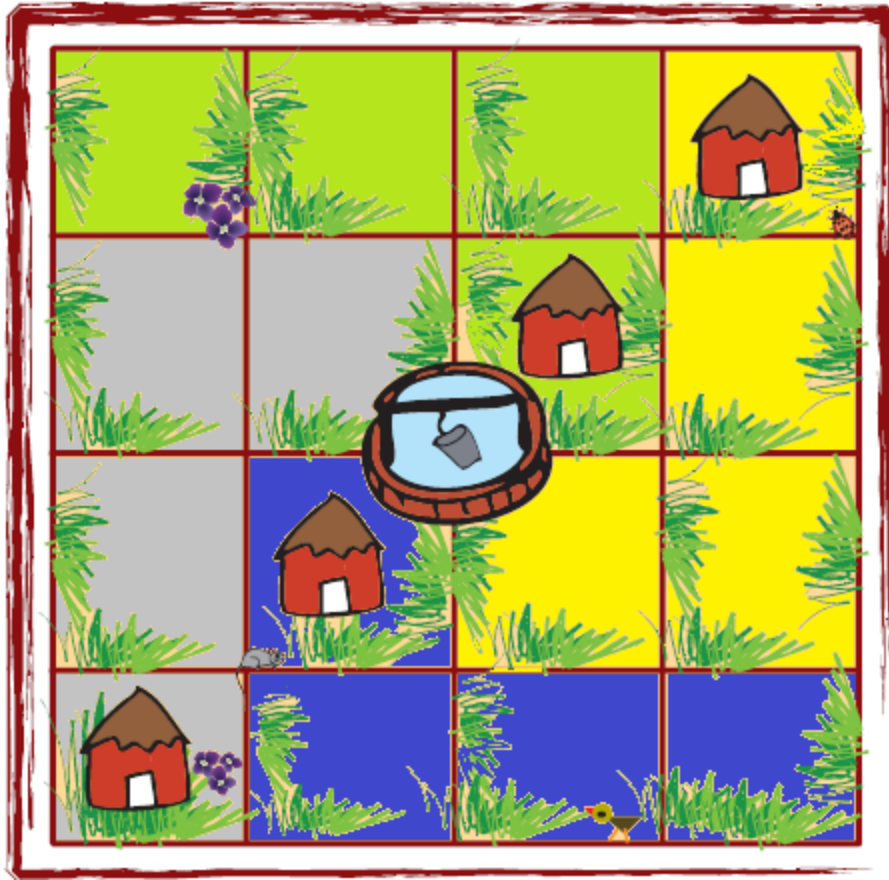
There are 4 houses on his land, and in the middle there is a well. He wants to divide this land equally among his four children. Each should get one house and be able to use the well without entering other's land. Can you help him divide the land?

Give different colours to each one's share.



Answer-

The image below shows how the land can be divided equally among the four kids, giving them each a house and the ability to utilise the well without compromising on each other's territory.



Benefits of NCERT Solutions for Class 4 Maths Chapter 13

The NCERT Solutions for Class 4 Maths Chapter 13, "Fields and Fences," offer several benefits for students:

Conceptual Clarity: The solutions provide clear and step-by-step explanations of how to calculate the perimeter, helping students grasp the concept thoroughly.

Real-World Applications: By relating the concept of perimeter to everyday scenarios like fencing fields or measuring garden boundaries, students understand how math is useful in practical situations.

Simplified Learning: Complex ideas are broken down into simpler steps, making it easier for young learners to follow and apply the methods.

Improved Problem-Solving Skills: Practicing a variety of problems enhances critical thinking and problem-solving skills, which are essential for overall academic growth.

Self-Assessment: Students can use the solutions to check their answers, allowing for independent learning and helping them identify areas where they need improvement.

Time Management: By providing ready-made solutions, students can save time in solving problems and focus more on understanding the concepts.

Exam Preparation: The solutions are aligned with the NCERT curriculum, helping students prepare effectively for exams by practicing similar types of questions.