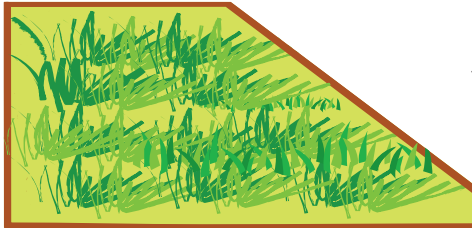


13 Fields and Fences



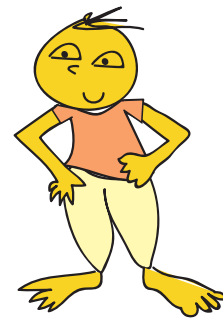
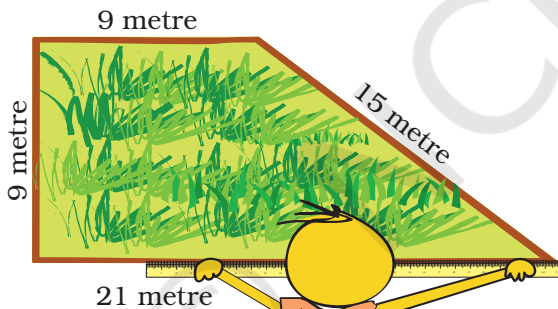
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Rahmat is a farmer. He grows wheat in his field.



I need a fence around my field. How much wire should I buy?

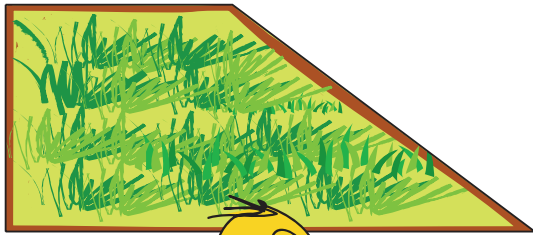
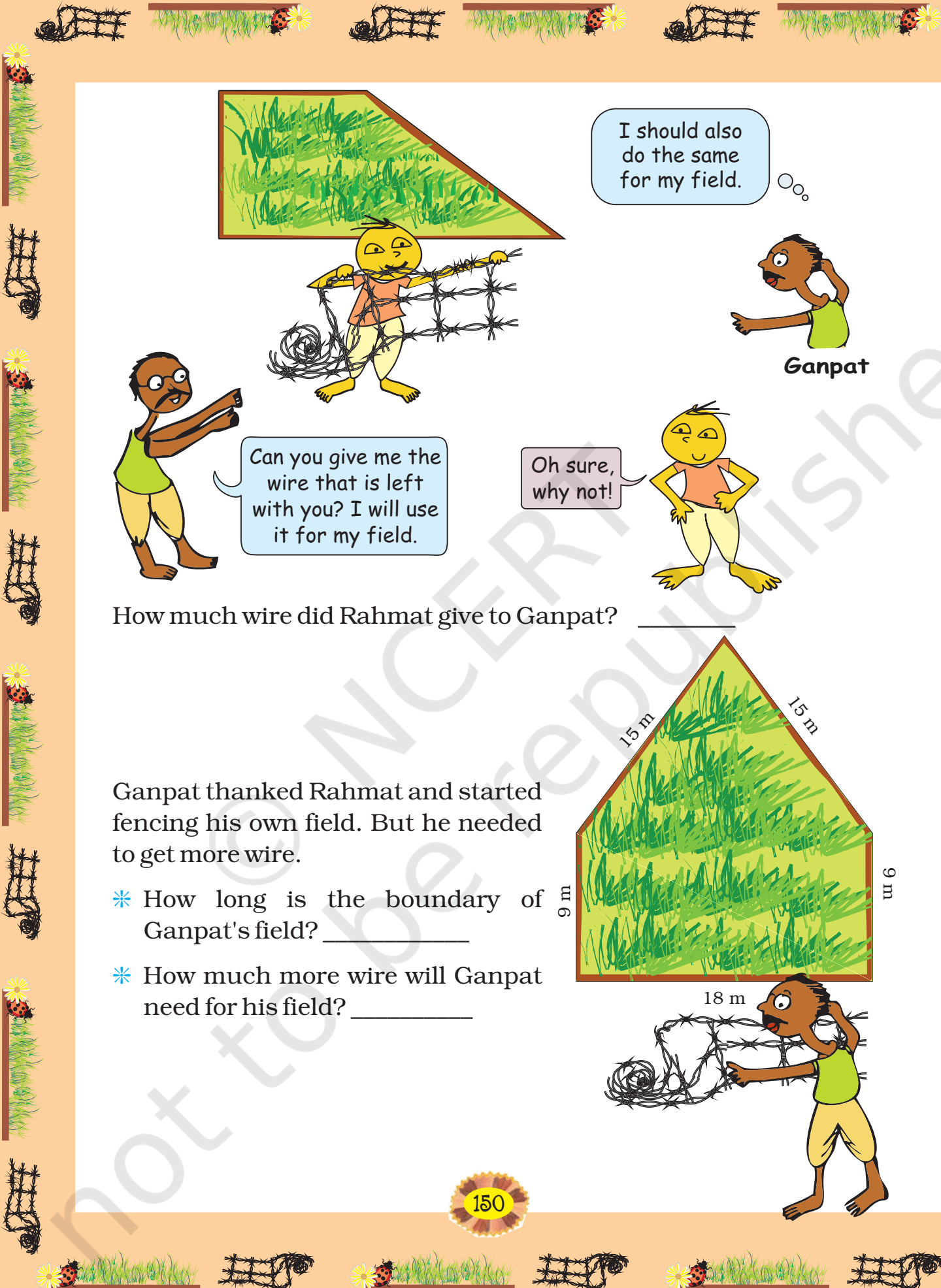
Rahmat needs to find the length of the boundary of the field. Can you find it from this picture? See the length of each side written near it.



Uhm---m! The boundary is 54 metres long.



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



I should also do the same for my field.



Can you give me the wire that is left with you? I will use it for my field.



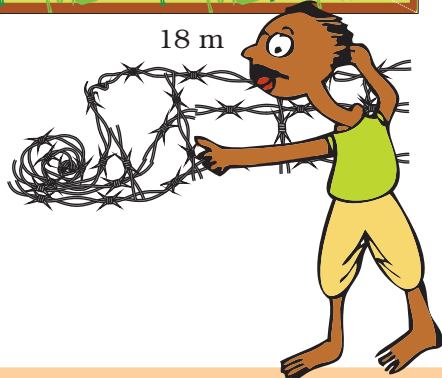
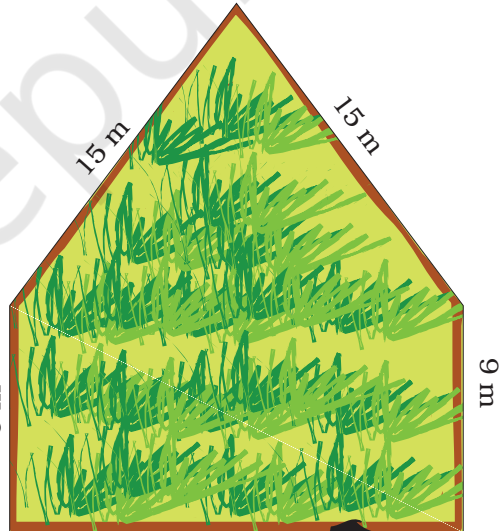
Oh sure, why not!



How much wire did Rahmat give to Ganpat? _____

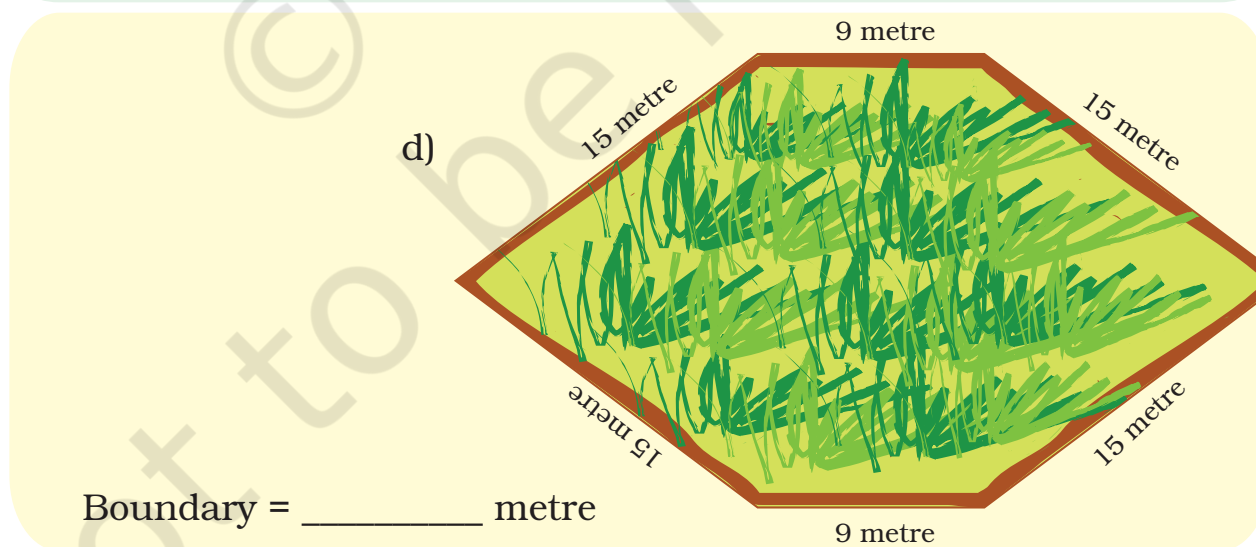
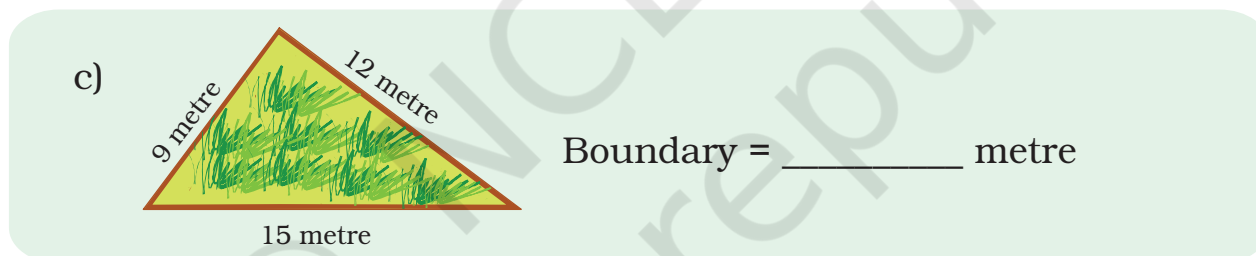
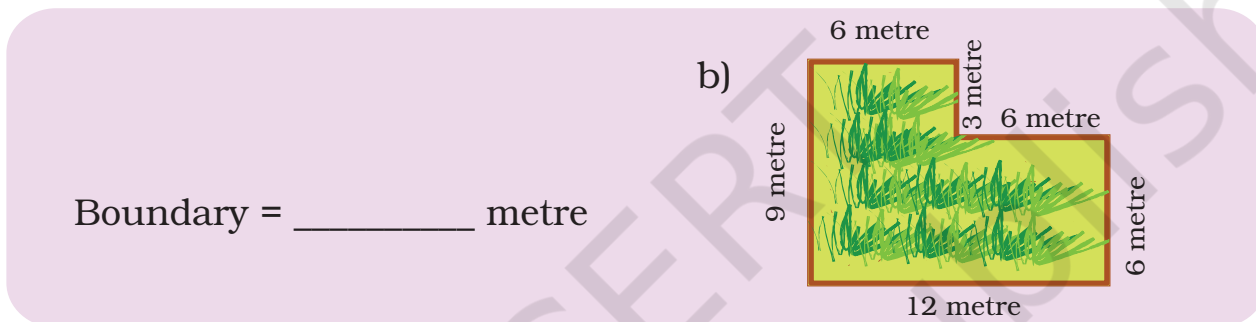
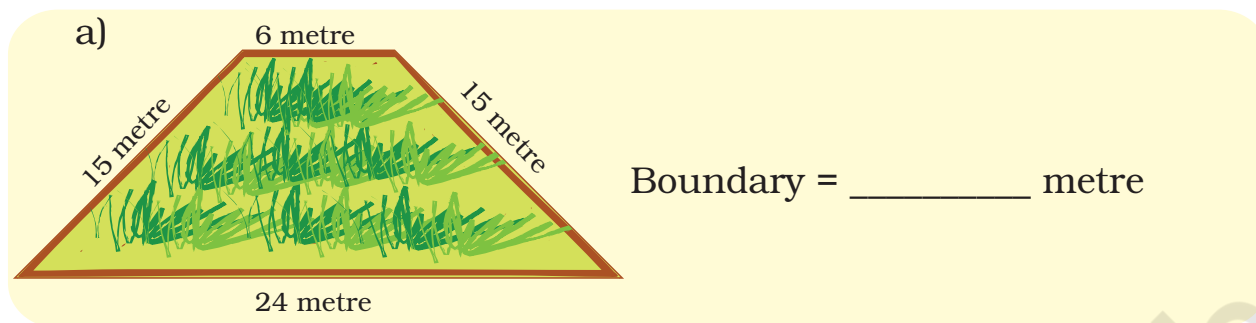
Ganpat thanked Rahmat and started fencing his own field. But he needed to get more wire.

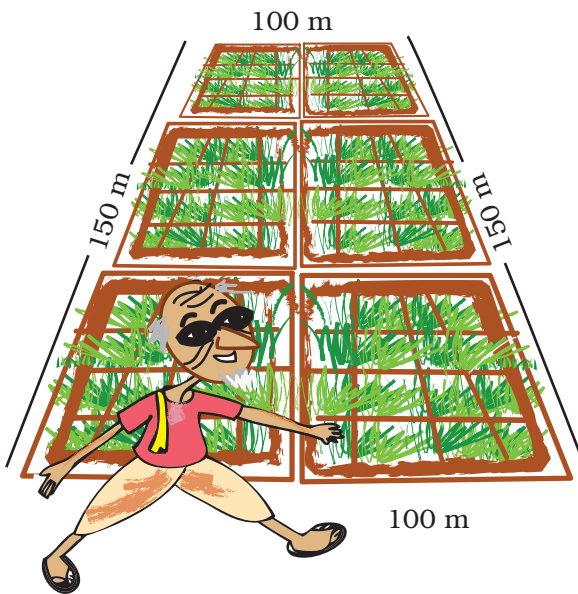
- * How long is the boundary of Ganpat's field? _____
- * How much more wire will Ganpat need for his field? _____



Practice Time

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





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. Everyday he takes four rounds of Chandu's field.

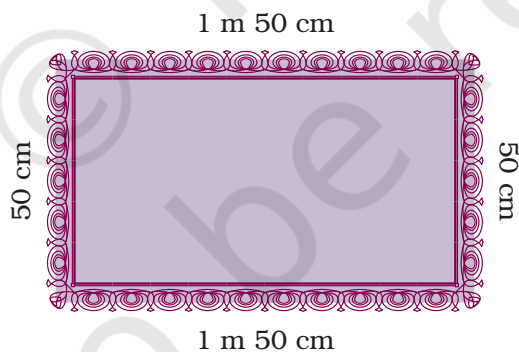
* What is the total distance he covers?

$$4 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ m} = \underline{\hspace{2cm}} \text{ km}$$

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.

* Look at the picture of the table cloth and tell how much lace is used for one table cloth. _____

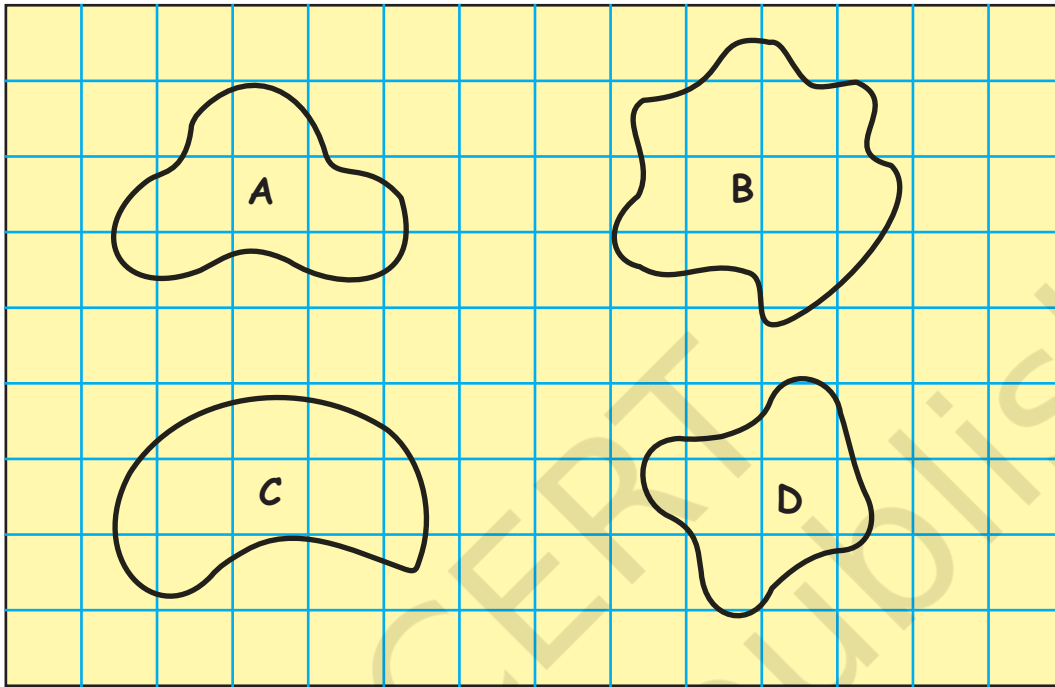


* How much lace will be used in 3 such table cloths? _____

* How much lace will be left in the roll? _____

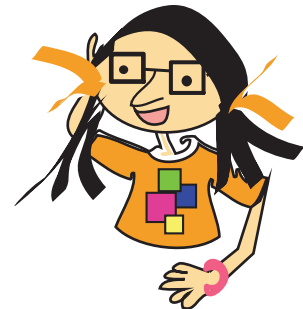
Activity

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



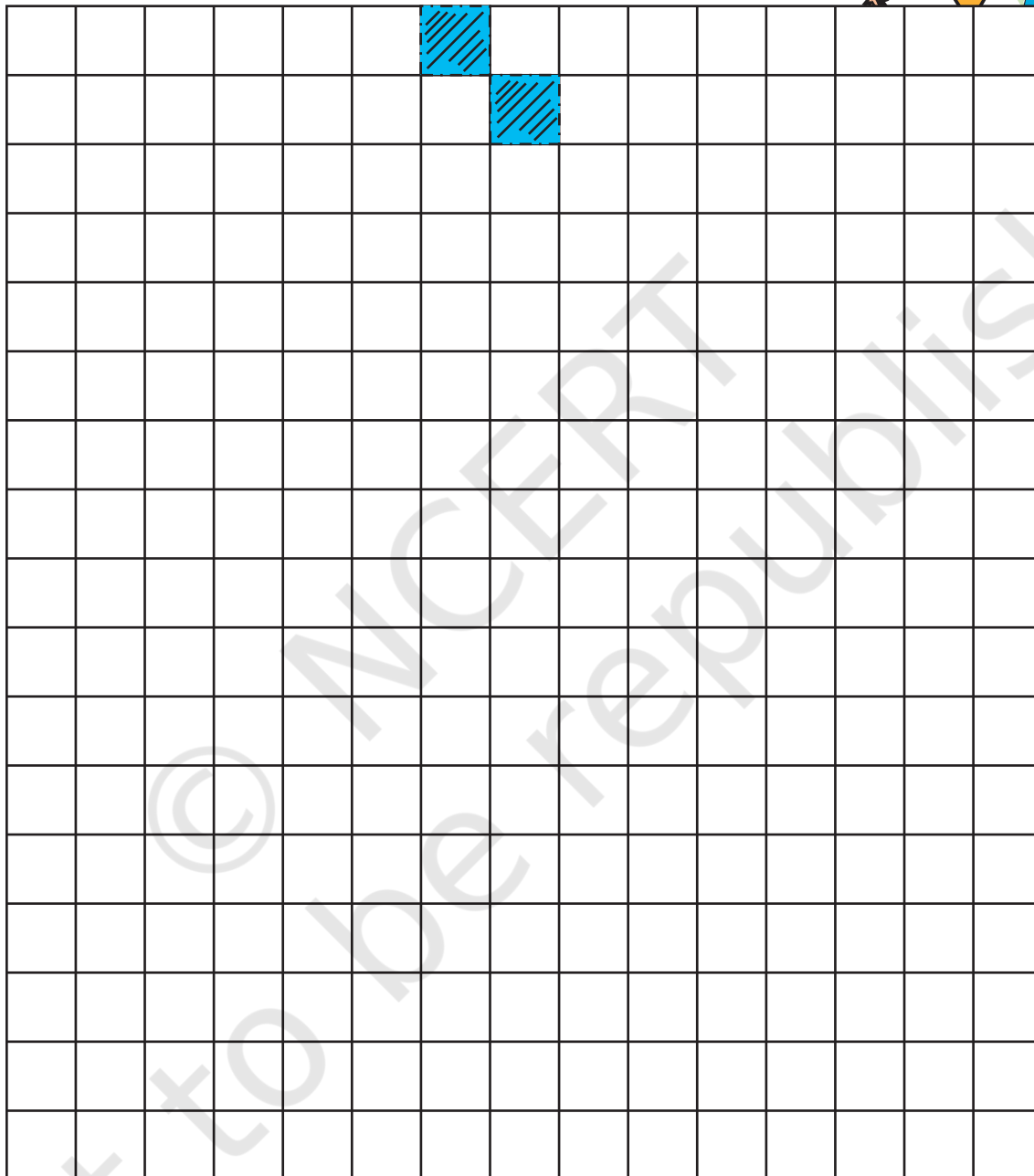
Now count the squares to find out :

- * How many squares are there in each shape?
 - * Which shape covers the least number of squares?
 - * Which shape covers the most number of squares?
2. Take a 20 centimetre long thread. Make different shapes by joining the ends. Place on the squared sheet on the next page. Find out:
 - * How many squares are there in each shape?
 - * Which is the biggest shape?
 - * Which is the smallest shape?
 - * How long is the boundary of each shape?



Children could be asked to ignore a square if it is less than half, but count it as 1 if it is more than half. This will give them a feel for 'rounding off'.

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?

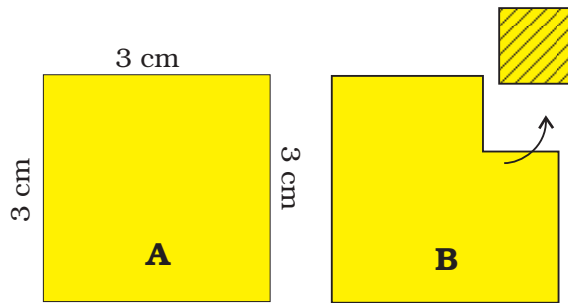


Try this activity with three squares also.

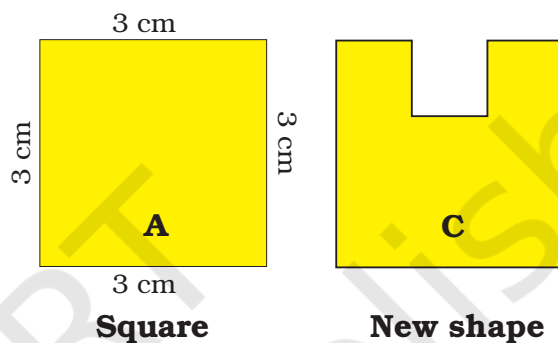
Practice Time

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.

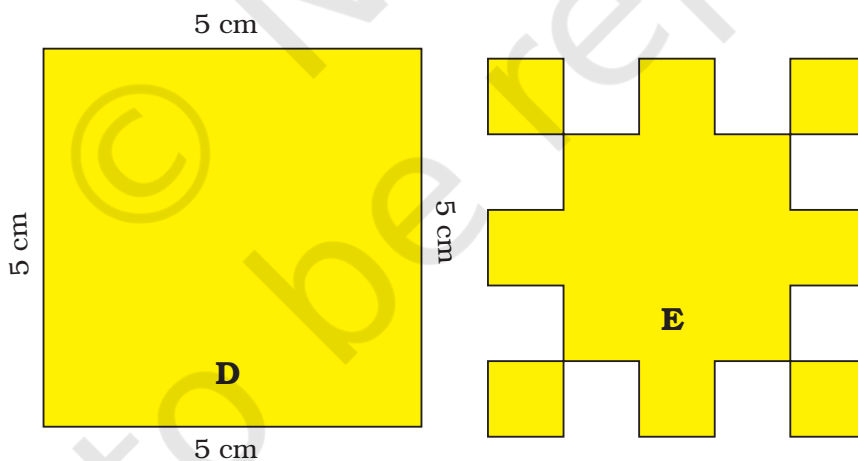



b) If you cut a 1 cm square to get shape C, what will be the length of the boundary of C?



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

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

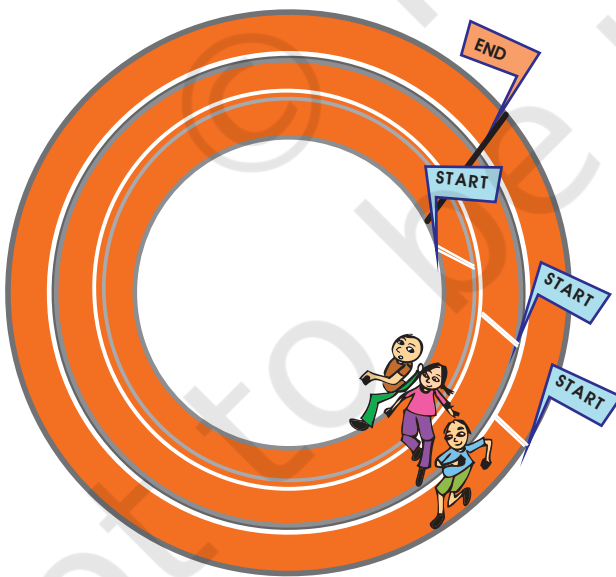
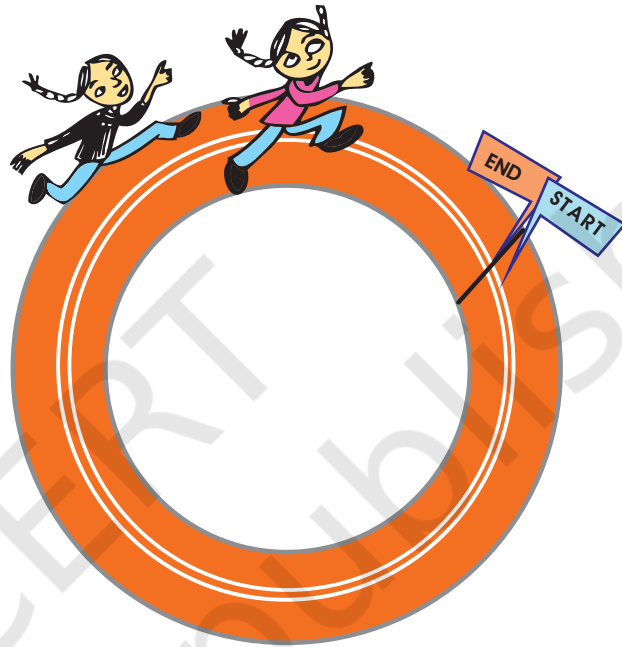


c) The boundary of this  is $\underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad}$

Can we also say that the boundary is 4×1 cm?

3. A hockey field is 91 metres 40 cm long and 55 metres wide. How long is the boundary of the field?
4. Usha and Valsamma are running a race. Usha is running on the inner circle. Valsamma is running on the outer circle.

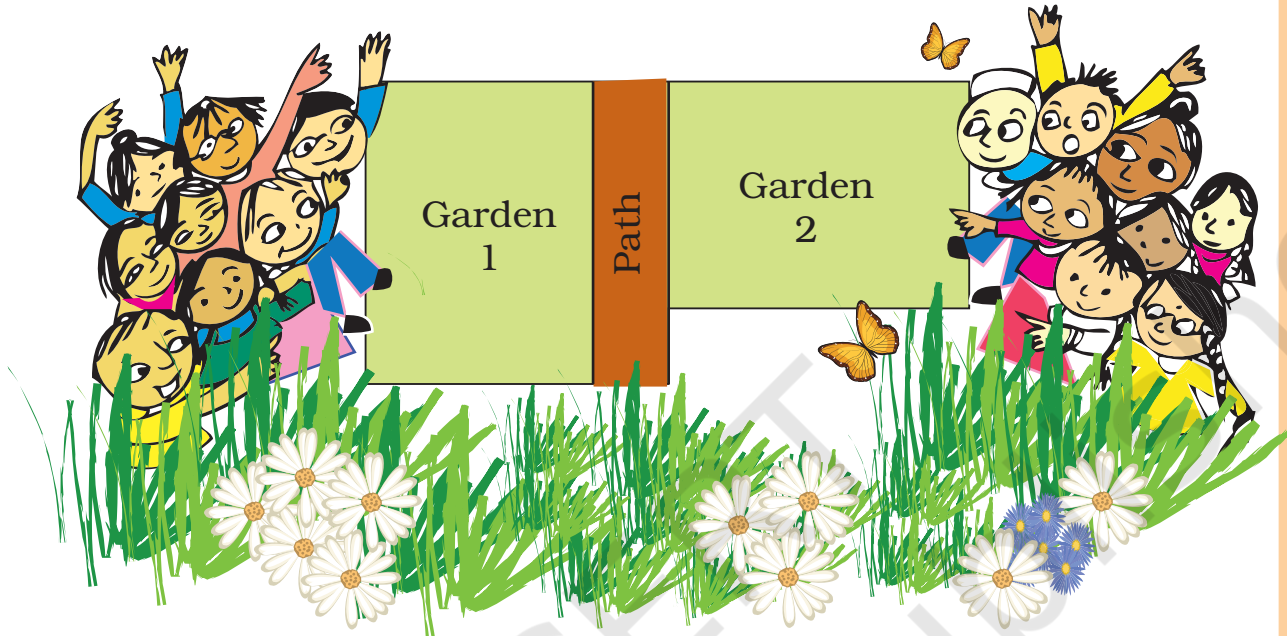
Valsamma runs faster than Usha. But still she loses the race. Can you guess why? _____



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

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 –



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

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.)

Write your guess here. _____

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

What is the difference between your guess and the actual number of books? _____

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.

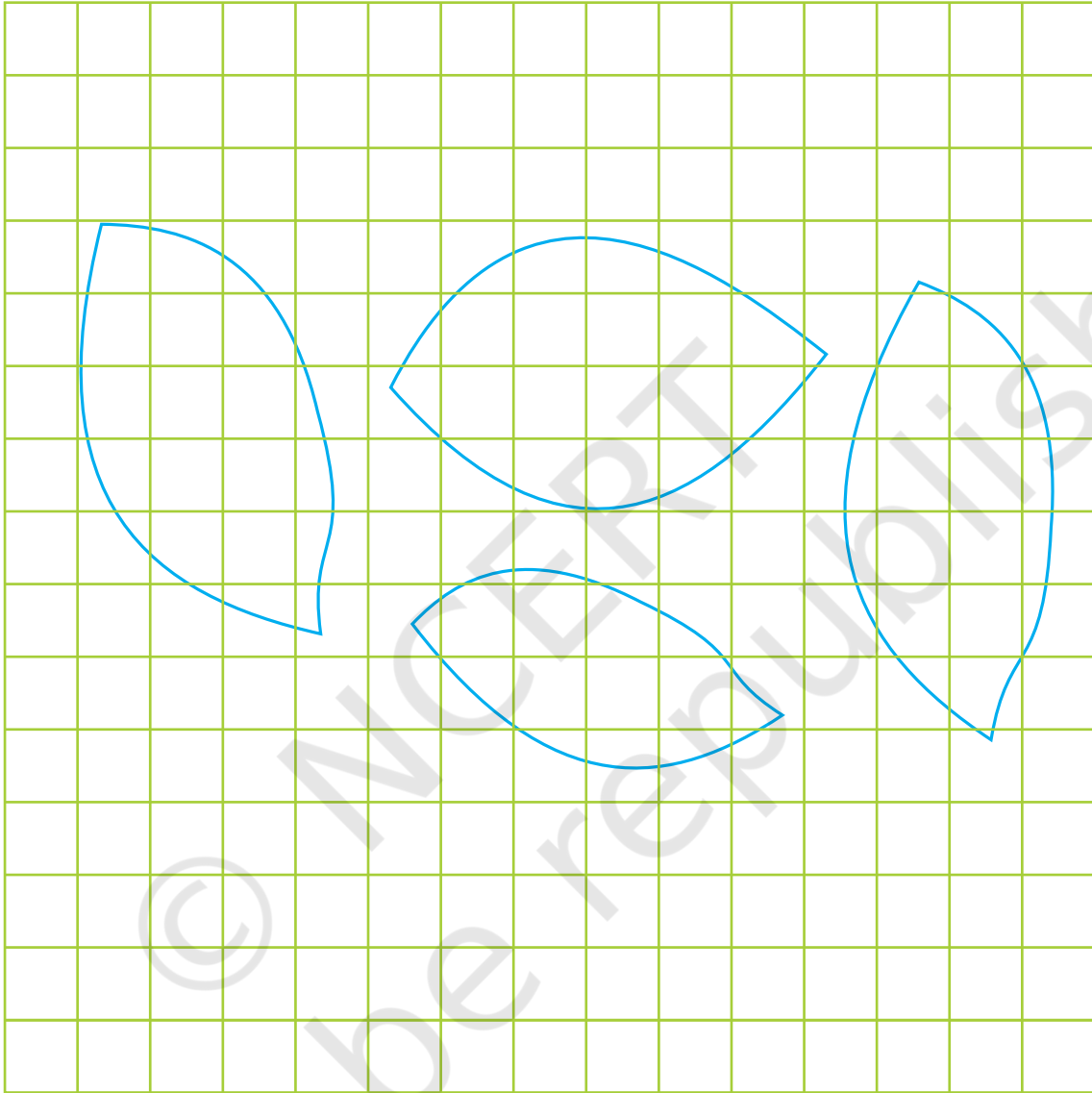
3. a) How many Math-Magic books can be covered with one sheet of newspaper?
b) Try covering your Math-Magic book with half a sheet of newspaper.
c) Can you cover your book with a smaller sheet?





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

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.

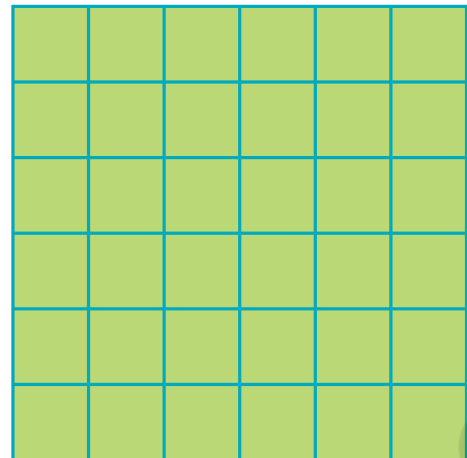
c) Which is the biggest leaf?

d) Which is the smallest leaf?



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?



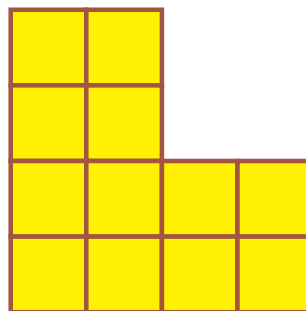
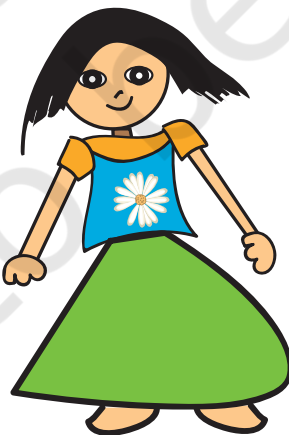
6. Guess how many squares of one centimetre can fill this blue rectangle.



Write your guess here. _____

Check your guess by filling it with small squares.

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



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 the other's land. Can you help him divide the land?

Give different colours to each one's share.

