

CBSE Class 4 Subject Mathematics

NCERT Solutions

Chapter -13

FIELDS AND FENCES

Read the following passage and answer the questions that follow:

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

Ans. The length of the wire required for fencing the field is equal to the boundary of the field.

2. Can you find it from this picture?

Ans. Yes, I can find its boundary. It is equal to $21\text{m} + 15\text{m} + 9\text{m} + 9\text{m} = 54\text{m}$ of the field.

3. How much wire did Rahmat give Ganpat?

Ans. Rahmat gave Ganpat a wire of length $70\text{m} - 54\text{m} = 16\text{m}$.

4. How long is the boundary of Ganpat's field?

Ans. Boundary of the Ganpat's field = $18\text{m} + 9\text{m} + 15\text{m} + 15\text{m} + 9\text{m} = 66\text{ metres}$.

5. How much wire will Ganpat need for his field?

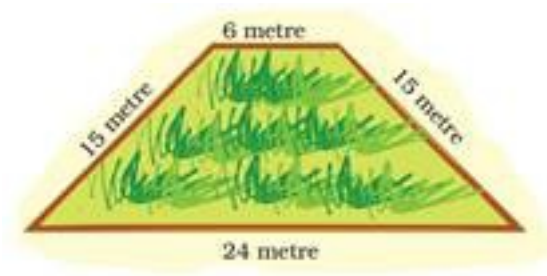
Ans. Ganpat's total requirement of wire = 66 metres

Length of wire given by Rahmat = 16 metres

Therefore, the length of more wire needed by Ganpat = $(66-16) = 50\text{ metres}$.

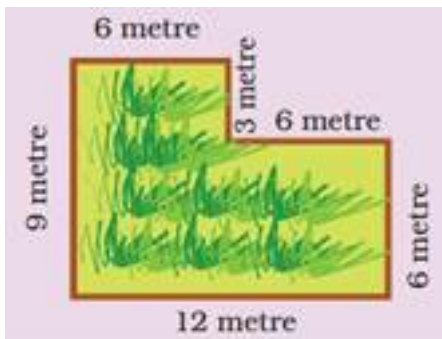
6. Here are the picture of some more fields. Find out which one has the biggest boundary.

(a)



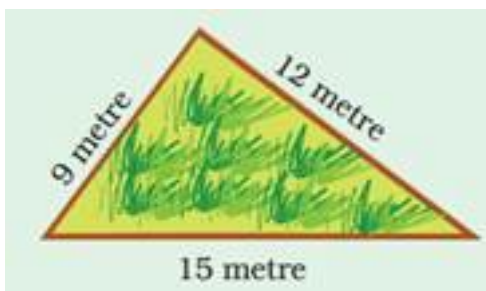
Ans. Boundary = $(24 + 15 + 6 + 15)$ metres = 60 metres

(b)



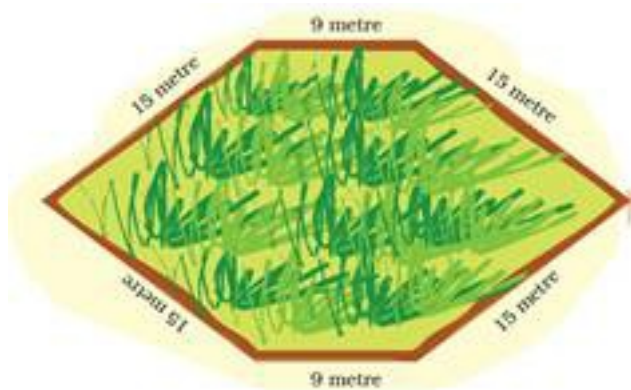
Ans. Boundary = $(12 + 6 + 6 + 3 + 6 + 9)$ metres = 42 metres.

(c)



Ans. Boundary = $(15 + 12 + 9)$ metres = 36 metres.

(d)



Ans. (d) Boundary = $(9 + 15 + 15 + 9 + 15 + 15)$ metres = 78 metres.

7. Chandu's father is called the "young old man" in his village. At 70 years 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 fields. What is the total distance he covers.

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

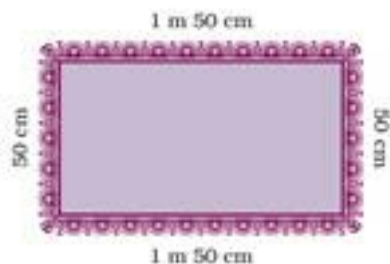


Ans. Boundary of Chandu's field = $100 \text{ m} + 150 \text{ m} + 100 \text{ m} + 150 \text{ m} = 500\text{m}$.

Total Distance covered by Chandu's father = $4 \times$ Boundary of Chandu's field

$= 4 \times 500\text{m} = 2000 \text{ m} = 2 \text{ km}$.

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



Ans. Length of lace = $2 \times (1\text{ m } 50\text{ cm} + 50\text{ cm}) = 2 \times 2\text{ m} = 4\text{ m}$.

9. How much lace will be used in 3 such table clothes? How much lace will be left in the roll?

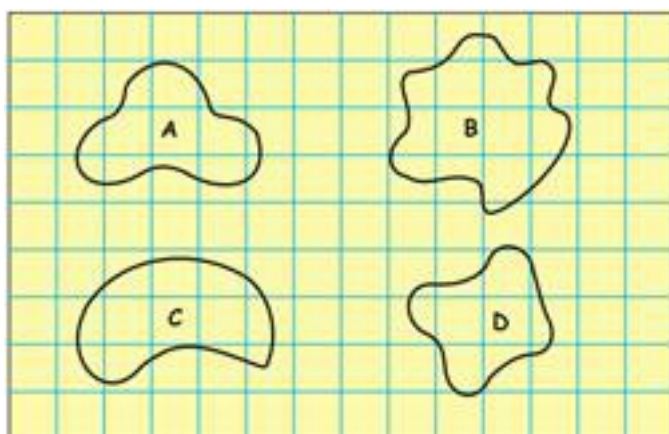
Ans. Lace used for one table cloth = $1\text{ m } 50\text{ cm} + 50\text{ cm} + 1\text{ m } 50\text{ cm} + 50\text{ cm} = 4\text{ metres}$

Lace used for 3 such table cloths = 3×4 Lace used for on one table cloth

= 3×4 metres = 12 metres.

Lace left in the roll = Total Lace – Lace used = $100\text{ m} - 12\text{ m} = 88\text{ m}$.

10. Find out the length of the boundary of these shapes.



Ans. To find the length of the boundary, take a long piece of thread and carefully place it along the boundary of the shape. Cut out the exact length of the thread needed for covering the shape, starting from one point and coming back to the same point. On measuring the length of this thread, we obtain the length of this thread, we obtain boundary of the shape. Repeat the process for each shape.

11. Now count the square and find out:

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

Ans. The number of complete squares in shape A is 1, in shape B is 2, in shape C is 3 and shape D is 2.

(b) Which shape covers the least number of squares?

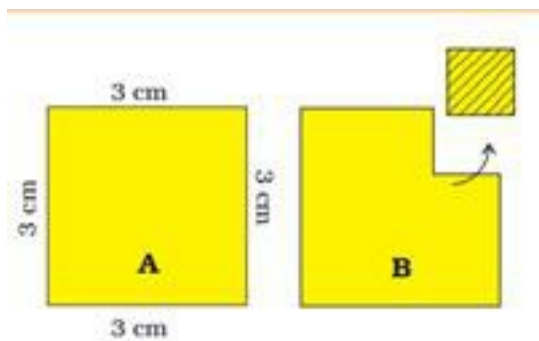
Ans. The least number of complete squares are in shape A.

(c) Which shape covers the most number of squares?

Ans. Shape C has the most number of complete squares.

12. 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.

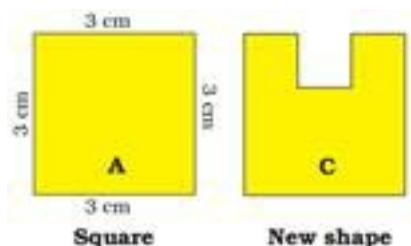


Ans. Boundary of B = $3\text{ cm} + 2\text{ cm} + 1\text{ cm} + 1\text{ cm} + 2\text{ cm} + 3\text{ cm} = 12\text{ cm}$

Since the boundary of A is also 12 cm.

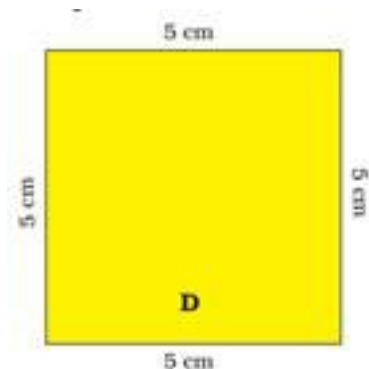
So, the boundary of B is neither less nor more than that of A. But their boundaries are equal.

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



Ans. Boundary of C = 3cm + 3cm + 1cm + 1cm + 1 cm +1cm + 1cm + 3 cm = 14 cm.

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



Ans. Length of the boundary of square D = 5cm + 5cm + 5cm + 5cm = 20cm

(b) The boundary of this square (1cm) is ___ + ___ + ___ + ___.

Ans. The boundary of this square (1cm) is 1cm + 1cm + 1cm + 1cm = 4cm.

Yes, we can also say that the boundary is 4×1 cm.

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

Ans. Length of the boundary of a hockey field = 91m + 40cm + 55m + 91m 40 cm + 55m
= 292 m 80 cm

15. Usha and Valsamma are running a race. Usha is running on the inner circle. Valsamma is running on the outer circle. Valsamma runs after than Usha. But still loses the race. Can you guess why?



Ans. Since inner boundary is smaller than the outer boundary and as such Valsamma has to run for more distance, therefore, she loses the race.

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



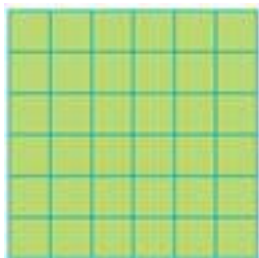
Ans. In order to make their running distances equal.

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

Ans. To find out if the two gardens are equally big:

Let us cover each garden with cardboards of same size without overlapping. We see that the same number of cardboards cover each garden. Therefore, we can say that the two gardens are equally big.

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



Ans. There are 36 small squares of size 1 cm in the big green square.

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

Ans. Yes, there is a faster way to find the total number of small square. Just find: $6 \times 6 = 36$.

19. Guess how many squares of one centimetre can fill this rectangle? Checking your guess by completing the grid.



Ans. By completing the grid with squares of one centimetre, we find the number of such squares is 32.

