

# NCERT SOLUTIONS

CLASS - 5th



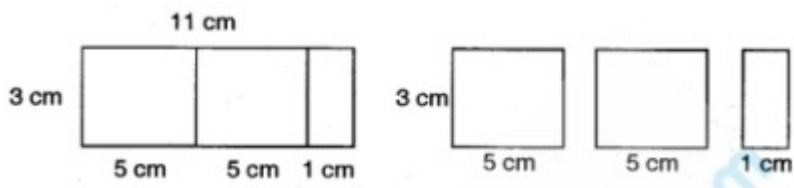
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Class : 5th  
Subject : Maths  
Chapter : 11  
Chapter Name : Area And Its Boundary

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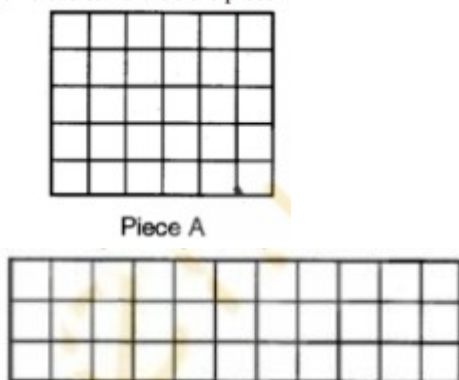
Q1 Suggest some ways to find out whose piece is bigger. Discuss?

Answer. There are various ways to decide whose piece is bigger following ideas can be used. Idea 1: Cut the piece B as shown here.



It is observed that the first and second parts exactly cover the piece A. but the third part is remaining which shows that part B is bigger than part A.

Idea 2: We can divide the piece A and B into a 1cm square in the following way.



Now, count the number of small boxes in each piece. There are 30 boxes in piece A and 33 boxes in piece B So, piece B is bigger than piece A.

Page : 146 , Block Name : Whose Slice Is Bigger?

Q2 Altogether how many squares can be arranged on it?

Answer. 30 square

Page : 147 , Block Name : Whose Slice Is Bigger?

Q3 So, the area of piece A = \_\_\_\_\_ square cm

Answer. 30 square cm

Page : 147 , Block Name : Whose Slice Is Bigger?

Q4 In the same way find the area of piece B.

Answer. We can divide the area into 33 boxes. So, the area is 33 square cm.

Page : 147 , Block Name : Whose Slice Is Bigger?

Q5 Who had the bigger piece? How much bigger?

Answer. Piece B had bigger area then Piece A by  $(33 - 30) = 3$  square cm

Page : 147 , Block Name : Whose Slice Is Bigger?

Q1 Measure the yellow rectangle. It is \_\_\_\_\_ cm long.

Answer. 14 cm

Page : 148 , Block Name : Check Your Guess

Q2 How many stamps can be placed along its length? \_\_\_\_\_

Answer. 7 steps

Page : 148 , Block Name : Check Your Guess

Q3 How wide is the rectangle? \_\_\_\_\_ cm

Answer. 10 cm.

Page : 148 , Block Name : Check Your Guess

Q4 How many stamps can be placed along its width? \_\_\_\_\_

Answer. 5 stamps.

Page : 148 , Block Name : Check Your Guess

Q5 How many stamps are needed to cover the rectangle?

Answer.  $7 \times 5 = 35$  stamps.

Page : 148 , Block Name : Check Your Guess

Q6 How close was your earlier guess? Discuss.

Answer. It was quite close.

Page : 148 , Block Name : Check Your Guess

Q7 What is the area of the rectangle?

Answer.  $35 \times 5 = 175$  square cm

Page : 148 , Block Name : Check Your Guess

Q8 What is the perimeter of the rectangle?

Answer. Perimeter =  $2(14 + 10)$   
=  $2 \times 24$   
= 48 cm.

Page : 148 , Block Name : Check Your Guess

Q1 Arbaz plans to tile his kitchen floor with green square tiles. Each side of the tile is 10 cm. His kitchen is 220 cm in length and 180 cm wide. How many tiles will he need?

Answer. Area of floor =  $l \times b$   
=  $220 \times 180$   
= 39600 square cm  
Area of tile = side  $\times$  side  
=  $10 \times 10$   
= 100 square cm  
No. of tiles =  $39600 / 100$   
= 396 tiles

Page : 148 , Block Name : Practice Time

Q2 The fencing of a square garden is 20 m in length. How long is one side of the garden?

Answer. Perimeter of Garden = 20 m  
So, 4 side = 20  
1 side =  $20/4$   
1 side = 5 cm

Page : 148 , Block Name : Practice Time

Q3 A thin wire 20 centimeters long is formed into a rectangle. If the width of this rectangle is 4 centimeters, what is its length?

Answer. Perimeter = 20 cm  
 Width = 4 cm  
 Perimeter of rectangle = 20  
 $2(l + b) = 20$   
 $2(l + 4) = 20$   
 $l + 4 = 20/4$   
 $l = 10 - 4$   
 $l = 6$  cm.

Page : 148 , Block Name : Practice Time

Q4 A square carrom board has a perimeter of 320 cm. How much is its area?

Answer. Perimeter = 320 cm  
 First, we need to find the side of a square.  
 So, Perimeter = 320  
 $4 \times \text{side} = 320$   
 $\text{Side} = 320/4$   
 $\text{Side} = 80$  cm.  
 $\text{Area} = \text{side} \times \text{side}$   
 $\text{Area} = 80 \times 80$   
 $\text{Area} = 6400$  square cm.

Page : 149 , Block Name : Practice Time

Q5 How many tiles like the triangle given here will fit in the white design?

Answer. The Design required 6 triangles  
 $\text{Area of design} = 6 \times \frac{1}{2} = 3$  square cm  
 Make your own design with 6 square cm and 4 square cm  
 $\text{Area of 4 square cm} = 4 \times 2 = 8$  triangles.  
 $\text{Area of 6 square cm} = 6 \times 2 = 12$  triangles.

Page : 149 , Block Name : Practice Time

Q6 Sanya, Aarushi, Manav, and Kabir made greeting cards. Complete the table for their cards:

Answer.

Whose Card	Length	Width	Perimeter	Area
Sanya	10 cm	8 cm		
Manav	11 cm		44 cm	
Aarushi		8 cm		80 square cm
Kabir			40 cm	100 square cm

Take a thick paper sheet of length 14 cm and width 9 cm. You can also use an old postcard.

Page : 149 , Block Name : Practice Time

Q1 What is its area? What is its perimeter?

Answer. Area of rectangle =  $l \times b$   
=  $14 \times 9$   
= 126 square cm  
Perimeter =  $2(l + b)$   
=  $2(14 + 9)$   
=  $2 \times 23$   
= 46 cm

Page : 149 , Block Name : My Belt Is Longest!

Q2 Now cut strips of equal sizes out of it.

Answer. we cut the 8 strips in equal length  
=  $8 \times 14$   
= 112 cm  
we cut the 6 strips in equal length  
=  $6 \times 14$   
= 84 cm  
we cut the 4 strips in equal length  
=  $4 \times 14$   
= 56 cm

Page : 149 , Block Name : My Belt Is Longest!

Q3 How long is your belt? What is its perimeter? Whose belt is the longest in the class?

Answer. The Perimeter of belt =  $2(l + b)$   
=  $2(56 + 4)$   
=  $2 \times 60$   
= 120 cm

Page : 150 , Block Name : My Belt Is Longest!

Q1 Why did some of your friends get longer belts than others?

Answer. Because they made from thin strips.

Page : 150 , Block Name : Discuss

Q2 Is the area of your belt the same as the area of the postcard? Why or why not?

Answer. Area of the belt of 4 cm =  $l \times b$   
=  $4 \times 56$   
= 224 Square

No, it is not equal to the postcard.

Page : 150 , Block Name : Discuss

Q3 What will you do to get a longer belt next time?

Answer. I will make belt by thin strips.

Page : 150 , Block Name : Discuss

Q1 Can you think of how to cut a postcard so that you can pass through it? (See photo.) If you have tried hard enough and still not got it... look for the answer somewhere ahead.

Answer. Yes

Page : 150 , Block Name : Puzzle Pass Through A Postcard

Q1 A) You can play this game on a ground. Make two squares of one square meter each. Divide your class into two teams. Ready to play!

How many of you can sit in one square meter?

Answer. Three

Page : 151 , Block Name : People People Everywhere

Q2 How many of you can stand in it?

Answer. Four

Page : 151 , Block Name : People People Everywhere

Q3 Which team could make more children stand in their square? How many?

Answer. Team A

Page : 151 , Block Name : People People Everywhere

Q4 Which team could make more children sit in their square? How many?

Answer. Team A can make Four Children.

The measure of equal to that in which children easily sit there.

B) Measure the length of the floor of your classroom in meters. Also, measure the width.

Page : 151 , Block Name : People People Everywhere

Q5 What is the area of the floor of your classroom in square meters?

Answer. area of Floor =  $l \times b$   
 $= 10 \times 8 = 80$  square cm

Page : 151 , Block Name : People People Everywhere

Q6 How many children are there in your class?

Answer. 40 Children

Page : 151 , Block Name : People People Everywhere

Q7 So how many children can sit in one square meter?

Answer. no. children =  $80/40 = 2$ .

Page : 151 , Block Name : People People Everywhere

Q8 If you want to move around easily then how many children do you think should be there in one square meter?

Answer. Two Children.

Page : 151 , Block Name : People People Everywhere

Q9 Can you imagine how big a square of side 1 km is! It has an area of \_\_\_\_\_ square km. Guess how many people can live on that

Answer. Area of square =  $(X)$   
 $= 1$  square km.  
1000 people can live on that.

Page : 152 , Block Name : People People Everywhere

Q1 Can you divide the land equally? Show how you will divide it. Remember each person has to get a tree. Colour each person's piece of land differently.

Answer. Total no. of boxes = 90  
Hence, a person share =  $90/3 = 30$  cm.



Page : 152 , Block Name : Share The Land

Q2 If each square on this page is equal to 1 square meter of land, how much land will each of her children get? \_\_\_\_\_ square m

Answer. 30 square m

Page : 153 , Block Name : Share The Land

Q3 Chumki, Jhumri, and Imran need wire to make a fence. Who will need the longest wire for fencing?

Answer. perimeter of Chumki wire =  $9 + 2 + 3 + 2 + 6 + 4 = 26$  m,

Perimeter of Jumri's wire =  $6 + 3 + 2 + 3 + 4 + 6 = 24$ m,

Perimeter of Imran's wire =  $8 + 5 + 3 + 2 + 5 + 3 = 26$ m

Page : 153 , Block Name : Share The Land

Q4 Who will need the longest wire for fencing?

Answer. Missing

Page : 153 , Block Name : Share The Land

Q5 How much wire in all will the three needs?

Answer.  $24 + 26 + 26 = 76$ m

Page : 153 , Block Name : Share The Land

Q1 Which shape has the biggest area? How much? What is the perimeter of this shape?

Answer. Shape of P has the biggest area.

$$\begin{aligned} \text{Area} &= \left( 9 + 2 \times \frac{1}{2} + 7 \right) \\ &= 17 \text{ square cm} \end{aligned}$$

Page : 155 , Block Name : Thread Play

Q2 What is the perimeter of this shape?

Answer. perimeter of shape = 15 cm.

Page : 155 , Block Name : Thread Play

Q3 Which shape has the smallest area? How much?

Answer. Shape Q has the smallest area

Page : 155 , Block Name : Thread Play

Q4 What is the perimeter of this shape?

Answer.

$$\begin{aligned}\text{Area of square} &= \left(9 + 0 \times \frac{1}{2} + 7\right) \\ &= 16 \text{ square cm.}\end{aligned}$$

$$\begin{aligned}\text{Area of rectangle} &= \left(10 + 5 \times \frac{1}{2} + 0\right) \\ &= 12 \text{ square cm.}\end{aligned}$$

Page : 155 , Block Name : Thread Play

Q1 How many cms are the length of the boundary of lake A in the drawing?

Answer. 33 cm

Page : 156 , Block Name : Save The Birds

Q2 What is the length of the boundary of lake B in the drawing?

Answer. 26 cm.

Page : 156 , Block Name : Save The Birds

Q3 How many kilometers long is the actual boundary of lake A?

Answer. 33 km 14 m

Page : 156 , Block Name : Save The Birds

Q4 How many kilometers long is the actual boundary of lake B?

Answer. 26 km.

Page : 156 , Block Name : Save The Birds

Q5 A longer boundary around the lake will help more birds to lay their eggs. So which lake should

be kept for birds? Which lake should be used for boats?

Answer. Lake A should be kept for birds and lake B should be used for boats.

Page : 156 , Block Name : Save The Birds

Q6 Find the area of lake B on the drawing in square cm. What is its actual area in square km?

Answer.

$$\begin{aligned}\text{Solution: Area of lake } B &= \left( 15 + 3 \times \frac{1}{2} + 8 \right) \\ &= 24.5 \text{ square cm.}\end{aligned}$$

Page : 157 , Block Name : Save The Birds

Q1 What is its area? Is it more than the first rectangle?

Answer. Area of rectangle = l X b

$$= 30 \times 20$$

600 square m.

Yes, it is more than the first rectangle

Page : 157 , Block Name : Kings Story

Q2 What other rectangles can he make with 100 meters of wire? Discuss which of these rectangles will have the biggest area.

Answer. These are the following rectangles:

$$5 \times 45 = 225 \text{ square m}$$

$$15 \times 35 = 525 \text{ square m}$$

$$25 \times 25 = 625 \text{ square m.}$$

The third one has the biggest area.

Page : 157 , Block Name : Kings Story

Q3 Why did Cheggu not choose a rectangle? Explain.

Answer. Because none of the rectangles have an area of 800 sqm.

Page : 157 , Block Name : Kings Story

Q4 He made rectangles A, B, and C of different sizes. Find out the length of the boundary of each. How much gold wire will he get for these rectangles?

Answer. The king fainted because he could not able to change more gold.

Page : 158 , Block Name : Kings Story

Q5 Can you make a rectangle with a still longer boundary? I made a rectangle 1 cm wide and 80000 m long. Imagine how long that boundary will be!!! With that much gold wire, I can become the king!

Answer.

$$\begin{aligned}\text{Perimeter} &= 2(1 + b) \\ &= 2(8000 + 1\text{cm}) \\ &= 2\left(8000 + \frac{1}{100}\right) \\ &= 2(8000 + 0.01) \\ &= 2(8000.01) \\ &= 16000.02\text{m}\end{aligned}$$

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