NCERT SOLUTIONS

CLASS - 5th

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Class : 5th
Subject : Maths
Chapter : 3
Chapter Name : How Many Squares?

Q1 Measure the side of the square on dotted sheet. Draw here as many rectangles as possible using 12 such squares. How many rectangles could you make? _____

Answer. The side 7 square is 1 cm.
The following figure shows the possible rectangles using 12 squares. There are 7 rectangles.
2 rectangles are of size = 1 x 12 cm.
1 rectangles are of size = 2 x 6 cm.
4 rectangles are of size =3 x 4 cm.
Have a number of rectangles = 2 + 1 + 4 = 7

Page : 34 , Block Name : How Many Squares?

Q2 Which of these rectangles has the longest perimeter?

Answer. the perimeter of rectangles 1 x 12 cm.
$= 2(l + b)$
$= 2(1 + 2)$
$= 2 \times 13 = 26\text{cm}$
$\text{the perimeter of the rectangle } 2 \times 6\text{cm} .$
$= 2(l + b)$
$= 2(2 + 6)$
$= 2 \times 8 = 16\text{cm}.$
$\text{the perimeter of the rectangle } 3 \times 4\text{cm} .$
$= 2(1 + b)$
$= 2(3 + 4)$
$= 2 \times 7 = 14\text{cm}$
$\text{since the rectangle } 1 \times 12 \text{ has the longest perimeter.}$

Page : 34 , Block Name : How Many Squares?

Q3 Which of these rectangles has the smallest perimeter?

Answer. The rectangle 3 x 4 has the smallest perimeter

Page : 34 , Block Name : How Many Squares?

Q1 Look at these interesting stamps.
a) How many squares of one centimetre side does stamp A cover? _____
And stamp B? _____

b) Which stamp has the biggest area? How many squares of side 1 cm does this stamp cover? How much is the area of the biggest stamp? ____ square cm.

c) Which two stamps have the same area? ____. How much is the area of each of these stamps? ___ square cm.

d) The area of the smallest stamp is ____ square cm. The difference between the area of the smallest and the biggest stamp is ____ square cm.

Answer. a)
$$\begin{aligned} \text{Area of stamp} &= l \times b \\ &= 6 \times 3 \\ &= 8cm \end{aligned}$$
The red triangle is half of the rectangle area.
b) Area of two rectangles =area of red rectangle + AREA OF green rectangle.
= 12 + 8
= 20 square cm
red triangle's area is half of the rectangle
$= \frac{1}{2} \times 20 = 10$
Have both triangles have the same area.
c) Missing
d) Missing

Page : 35 , Block Name : Measure Stamps

Q1 Which has the bigger area — one of your footprints or the Page of this book?

Answer. The area of the Page of this book.

Page : 36 , Block Name : Guess

Q2 Which has the smaller area—two five-rupee notes together or a hundred rupee note?

Answer. A hundred rupees note

Page : 36 , Block Name : Guess

Q3 Look at a 10 rupee-note.Is its area more than hundred square cm?

Answer. No, the area of hundred rupee note is more than the area of 10 rupees note..

Page : 36 , Block Name : Guess

Q4 Is the area of the blue shape more than the area of the yellow shape? Why?

Answer. No. both shapes have equal area.

Page : 36 , Block Name : Guess

Q5 Is the perimeter of the yellow shape more than the perimeter of the blue shape? Why?

Answer. Now the perimeter of the blue shape is more than the perimeter of the yellow shape.

Page : 36 , Block Name : Guess

Q1 How will you decide whose hand is bigger — your hand or your friend's hand?

Answer. My footprint is smallest then my friends footprint.We can decide after measuring the area.No,the area is not same.

Page : 36 , Block Name : How Big Is My Hand?

Q2 What is the area of your hand? _____ square cm.

Answer. Missing

Page : 36 , Block Name : How Big Is My Hand?

Q3 What is the area of your friend's hand? _____ square cm.

Answer. Missing

Page : 36 , Block Name : How Big Is My Hand?

Q1 Whose footprint is larger yours or your friend's?

Answer. DIY

Page : 37 , Block Name : My Footprints

Q2 How will you decide? Discuss.

Answer. DIY

Page : 37 , Block Name : My Footprints

Q3 Is the area of both your footprints the same?

Answer. DIY

Page : 37 , Block Name : My Footprints

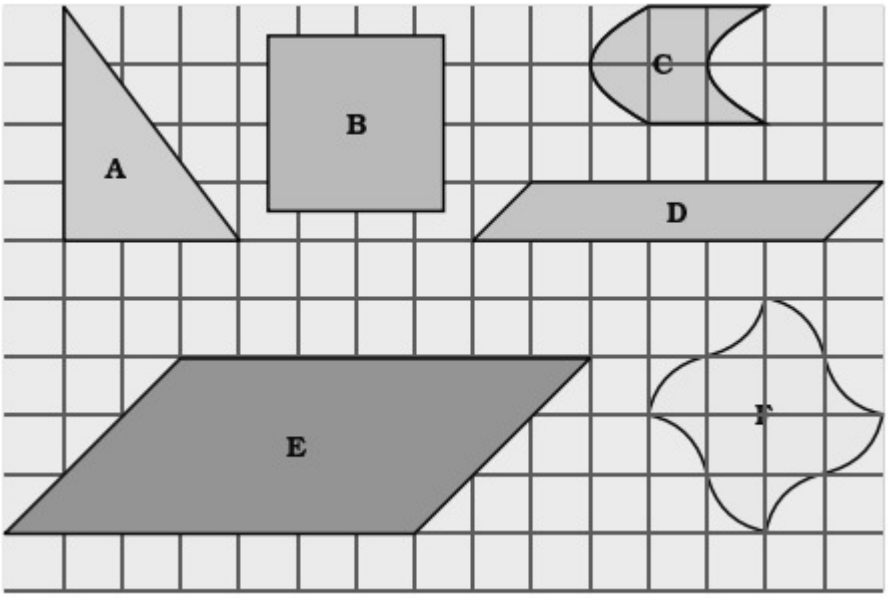
Q4 Guess which animal's footprint will have the same area as yours. Discuss.
Here are some footprints of animals — in actual sizes. Guess the area of their footprints.

Answer. The Footprint Of a monkey could be similar in the area as my footprint.

$$\begin{aligned}\text{area of the blue triangle } &= (4 \times 3) \times \tfrac{1}{2} \\ &= 10 \text{ square cm .} \\ \text{Hence, the total area } &= 6 + 4 \\ &= 10 \text{ square cm.}\end{aligned}$$

Page : 38 , Block Name : My Footprints

Q1 Write the area (in square cm) of the shapes below.



Answer.

$$\begin{aligned}\text{area of triangle } &= \frac{1}{2} \times b \times h \\ &= \frac{1}{2} \times 3 \times 4 = 6 \text{ Square cm.}\end{aligned}$$

$$\begin{aligned}\text{area of square B} &= \text{side} \times \text{ side} \\ &= 3 \times 3 \\ &= 9 \text{ square cm.}\end{aligned}$$

$$\begin{aligned}\text{area of shape } c &= 2 + \frac{1}{2} \times 0 + 2 \\ &= 4 \text{ Square cm.}\end{aligned}$$

$$\begin{aligned}\text{area of shape D} &= 5 + \frac{1}{2} \times 2 + 0 \\ &= 6 \text{ square cm.}\end{aligned}$$

$$\begin{aligned}\text{area of shape E} &= 18 + \frac{1}{2} \times 6 + 0 \\ &= 21 \text{ square cm .}\end{aligned}$$

$$\begin{aligned}\text{area of shape F} &= 4 \times \frac{1}{2} \times 0 + 4 \\ &= 8 \text{squarecm}\end{aligned}$$

Page : 40 , Block Name : How Many Squares In Me?

Q1 Is he correct? Discuss

Answer. Yes, he is correct.

Page : 42 , Block Name : Complete The Shape

Q2 Explain how the green area is 4 square cm and the yellow area is 6 square cm.

Answer. Area of green region = no of green square completely
= 4 square cm.
area of yellow region =6 square cm

Page : 42 , Block Name : Complete The Shape

Q3 Is Suruchi correct? How much is the blue area? . Explain.

Answer. Yes, Suruchi is correct.
area of the green triangle = (4 x 2) x 1/2
= 4 square cm.
area of footprint 4 square m.
area of dog's footprint is 12 square m.(approximately)

Page : 43 , Block Name : Complete The Shape

Q4 Can you think of some other ways of completing the shape?

Answer. DIY

Page : 43 , Block Name : Complete The Shape

Q5 Try some other ways yourself.

Answer. DIY

Page : 43 , Block Name : Complete The Shape

Q6 Now ask your friends to solve these at home .

Answer. DIY

Page : 43 , Block Name : Complete The Shape

Q3 a) Draw one straight line in this rectangle to divide it into two equal triangles. What is the area of each of the triangles?

b) Draw one straight line in this rectangle to divide it into two equal rectangles. What is the area of each of the smaller rectangles?

c) Draw two straight lines in this rectangle to divide it into one rectangle and two equal triangles.

Answer. DIY

Page : 44 , Block Name : Practice Time

Q1 What is the area of the rectangle?

Answer. The area of this triangle =1.5 square m

Page : 44 , Block Name : Practice Time

Q2 What is the area of each of the triangles?

Answer. DIY

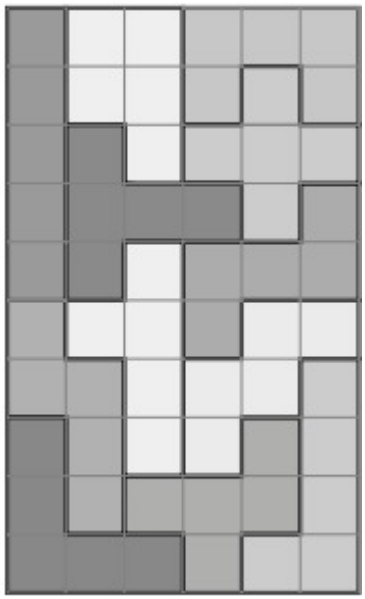
Page : 44 , Block Name : Practice Time

Q1 a) How many different shapes can you draw? _____
b) Which shape has the longest perimeter? How much? _____ cm
c) Which shape has the shortest perimeter? How much? _____ cm
d) What is the area of the shapes? _____ square cm. That's simple!

Answer. a) 10 different shapes can make.
b) The perimeter of all shapes is about 12 cm.
c) The perimeter of shape 3 has the shortest perimeter.
d) Area of each shape is 5 square cm.

Page : 45 , Block Name : Puzzles With Five Squares

Q2 Did you get all the 12 shapes using 5 squares?



Answer. Missing

Page : 46 , Block Name : Puzzles With Five Squares

Q3 Draw all the 12 shapes on a sheet of cardboard and cut them.

Answer. DIY

Page : 46 , Block Name : Puzzles With Five Squares

Q4 Try to arrange your 12 shapes in some other way to make a 10×6 rectangle. Could you do it?

Answer. The side figure show 12 shapes in different way.

Page : 46 , Block Name : Puzzles With Five Squares

Q1 Can you find the tile which is repeated to make each of these floor patterns? Circle a tile in each pattern.

Answer. Missing

Page : 48 , Block Name : Make Your Own Tile

Q2 How many tiles has she used?

Answer. Missing

Page : 49 , Block Name : Make Your Own Tile

Q3 What is the area of the floor pattern Ziri has made here?

Answer.

$$\begin{aligned}\text{Area of patterm } &= l \times b \\ &= 12 \times 3 = 36 \text{ square cm.}\end{aligned}$$

Page : 49 , Block Name : Make Your Own Tile

Q1 Which of these shapes will tile a floor (without any gaps)? Discuss. What is the area of these shapes?

Answer. Missing

Page : 49 , Block Name : Practice Time

Q2 Make designs in your copy by tiling those shapes.

Answer. Missing

Page : 49 , Block Name : Practice Time

Q3 Now you create your own new tiles out of a square. Can you do the same with a triangle? Try doing it.

Answer. Missing

Page : 49 , Block Name : Practice Time