FREE NCERT SOLUTIONS

CLASS - 9

HERONS FORMULA



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EXERCISE 12.1 - Question No. 1

A traffic signal board, indicating SCHOOL AHEAD, is an equilateral

triangle with side a. Find the area of the signal board, using Herons

formula. If its perimeter is 180 cm, what will be the area of the signal

board?

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EXERCISE 12.1 - Question No. 2

The triangular side walls of a flyover have been used for advertisements.

The sides of the walls are 122 m, 22 m and 120 m. The advertisements

yield an earning of Rs 5000 per m^2 per year . A company hired one of

its wall for 3 months. How much rent did it pay?

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EXERCISE 12.1 - Question No. 3

There is a slide in a park. One of its side walls has been painted in some

colour with a message KEEP THE PARK GREEN AND CLEAN. If the

sides of the wall are 15 m, 11 m and 6 m, find the area painted in colour.

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EXERCISE 12.1 - Question No. 4

Find the area of a triangle two sides of which are 18cm and 10cm and the

perimeter is 42cm.



EXERCISE 12.1 - Question No. 5

Sides of a triangle are in the ratio of 12:17:25 and its perimeter is 540cm.

Find its area.



EXERCISE 12.1 - Question No. 6

An isosceles triangle has perimeter 30 cm and each of the equal sides is 12

cm. Find the area of the triangle.

EXERCISE 12.2 - Question No. 1

A park, in the shape of a quadrilateral ABCD, has

 $\angle C = 90^{\circ}, \ AB = 9m, \ BC = 12m, \ CD = 5mand \ AD = 8m$. How

much area does it occupy?

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EXERCISE 12.2 - Question No. 2

Find the area of a quadrilateral ABCD in which

 $AB = 3 \ cm, \ BC = 4 \ cm, \ CD = 4 \ cm, \ DA = 5 \ cm \ and \ AC = 5 \ cm$

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Radha made a picture of an aeroplane with coloured paper as shown in Fig

12.15. Find the total area of the paper used.

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EXERCISE 12.2 - Question No. 4

A triangle and a parallelogram have the same base and the same area. If

the sides of the triangle are 26 cm, 28 cm and 30 cm, and the

parallelogram stands on the base 28 cm, find the height of the

parallelogram.

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EXERCISE 12.2 - Question No. 5

A rhombus shaped field has green grass for 18 cows to graze. If each side

of the rhombus is 30 m and its longer diagonal is 48 m, how much area of

grass field will each cow be getting?

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EXERCISE 12.2 - Question No. 6

An umbrella is made by stitching 10 triangular pieces of cloth of two

different colour, each piece measuring 20 cm, 50 cm and 50 cm. How

much cloth of each colour is required for the umbrella?

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EXERCISE 12.2 - Question No. 7

A kite in the shape of a square with a diagonal 32 cm and an isosceles triangle of base 8 cm and sides 6 cm each is to be made of three different shades as shown in Fig. 12.17. How much paper of each shade has been used in it?

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EXERCISE 12.2 - Question No. 8

A floral design on a floor is made up of 16 tiles which are triangular, the

sides of the triangle being 9 cm, 28 cm and 35 cm (see Fig. 12.18). Find

the cost of polishing the tiles at the rate of $50p \ per \ cm^2$.

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A field is in the shape of a trapezium whose parallel sides are 25m and 10

m. The non-parallel sides are 14m and 13m. Find the area of the field.



SOLVED EXAMPLES - Question No. 1

Find the area of a triangle, two sides of which are 8 cm and 11 cm and the

perimeter is 32 cm



SOLVED EXAMPLES - Question No. 2

A triangular park ABC has sides 120m, 80m and 50m. A gardener Dhania

has to put a fence all around it and also plant grass inside. How much area

does she need to plant? Find the cost of fencing it with barbed wire at the

rate of Rs 20 per metre leaving a space 3m wide for a gate on one side.



SOLVED EXAMPLES - Question No. 3

The sides of a triangular plot are in the ratio of 3:5:7 and its perimeter is

300 m. Find its area.



SOLVED EXAMPLES - Question No. 4

Kamla has a triangular field with sides 240 m, 200 m, 360 m, where she

grew wheat. In another triangular field with sides 240 m, 320 m, 400 m

adjacent to the previous field, she wanted to grow potatoes and onions.

She divided the field in two parts by joining the mid point of the longest side to the opposite vertex and grew potatoes in one part and onions in one part. How much area (in hectares) has been used for wheat, potatoes and onions? (1 hectare = $10000 m^2$)

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SOLVED EXAMPLES - Question No. 5

Students of a school staged a rally for cleanliness campaign. They walked

through the lanes in two groups. One group walked through the lanes AB,

BC and CA; while the other through AC, CD and DA (see Fig. 12.12).

Then they cleaned the area enclos

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Sanya has a piece of land which is in the shape of a rhombus. She wants her one daughter and one son to work on the land and produce different crops. She divided the land in two equal parts. If the perimeter of the land is 400 m and one of the diagonals is 160 m, how much area each of them will get for their crops?

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 $\left\{ \underbrace{\xrightarrow{y_1,y_2,x_2}}_{ax} \right\}, x \neq 0$



Bas Question ki photo khicho..

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