FREE NCERT SOLUTIONS

CLASS - 7

PERIMETER AND AREA



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EXERCISE 11.1 - Question No. 1

The length and the breadth of a rectangular piece of land are 500 m

and 300 m respectively. Find (i) its area (ii) the cost of the land, if 1

m2 of the land costs Rs 10,000.

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EXERCISE 11.1 - Question No. 2

Find the area of a square park whose perimeter is 320 m.



EXERCISE 11.1 - Question No. 3

Find the breadth of a rectangular plot of land, if its area is $440m^2$

and the lenght is 22m. Also find its perimeter

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EXERCISE 11.1 - Question No. 4

The perimeter of a rectangular sheet is 100 cm. If the length is 35

cm, find its breadth. Also find the area

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The area of a square park is the same as of a rectangular park. If the

side of the square park is 60 m and the length of the rectangular

park is 90 m, find the breadth of the rectangular park.



EXERCISE 11.1 - Question No. 6

A wire is in the shape of a rectangle. Its length is 40 cm and

breadth is 22 cm. If the same wire is rebent in the shape of a square,

what will be the measure of each side? Also find which shape

encloses more area?

EXERCISE 11.1 - Question No. 7

The perimeter of a rectangle is 130 cm. If the breadth of the

rectangle is 30 cm, find its length. Also find the area of the

rectangle.

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EXERCISE 11.1 - Question No. 8

A door of length 2 m and breadth 1m is fitted in a wall. The length

of the wall is 4.5 m and the breadth is 3.6 m (Fig11.6). Find the

cost of white washing the wall, if the rate of white washing the wall

is Rs 20 per m2.



EXERCISE 11.2 - Question No. 1

Find the area of each of the following parallelograms:

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EXERCISE 11.2 - Question No. 2

Find the area of each of the following triangles:

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EXERCISE 11.2 - Question No. 3

Find the missing values:

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EXERCISE 11.2 - Question No. 4

Find the missing values:

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EXERCISE 11.2 - Question No. 5

PQRS is a parallelogram (Fig11.23). QM is the height from Q to

SR and QN is the height from Q to PS. If

SR = 12cm and QM = 8cm. Find :

(a)theareaoftheparal $\leq gramPQRS(b)QN$, if PS=8cm`



EXERCISE 11.2 - Question No. 6

DL and BM are the height on sides AB and AD respectively of

parallelogarm ABCD (Fing 11.24). If the area of the parallelogram

is $1470cm^2$, AB = 35cm and AD = 49cm find the *BM* and *DL*.

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 ΔABC is right angled at A (Fig 11.25). AD is perpendicular to

BC. If AB = 5cm, BC = 13 and, find the area of ΔABC Also

find the lenght of AD.

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EXERCISE 11.2 - Question No. 8

 ΔABC is isosceles with

AB = AC = 7.5cm and BC = 13cm and AC = 12cm. The

height AD from A to BC is 6cm. Find the area of $\triangle ABC$. What

will be the height from C to AB, CE

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Find the circumference of the circles with the following radius:

(Take
$$\frac{22}{7}$$
) (a) 14*cm* (b) 28*mm* (c) 21*cm*

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EXERCISE 11.3 - Question No. 2

Find the area of the following circles, given that: (a) radius = 14

mm (Take = 227) (b) diameter = 49 m (c) radius = 5 cm

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If the circumference of a sheet is 154m, find its radius. Also find

the area of the sheet. (take $p = \frac{22}{7}$)

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EXERCISE 11.3 - Question No. 4

A gardener wants to fence a circular garden of diameter 21m. Find

the length of the rope he needs to purchase, if he makes 2 rounds of

fence. Also find the costs of the rope, if it cost Rs 4 per meter. (take

 $\pi = \frac{22}{7}$)

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6).From a circular sheet of radius 4 cm, a circle of radius 3 cm is removed. Find the area of the remaining sheet. (take $\pi = \frac{22}{7}$) (7).Saima wants to put a lace on the edge of a circular table cover of diameter 1.5 m. Find the length of the lace required and also find its cost if one meter of the lace costs ?15.(take $\pi = \frac{22}{7}$)

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EXERCISE 11.3 - Question No. 6

Saima wants to put a lace on the edge of a circular table cover of diameter 1.5 m. Find the length of the lace required and also find its cost if one meter of the lace costs Rs15. (take $\pi = 3.14$)



EXERCISE 11.3 - Question No. 7

Find the perimeter of the adjoining figure, which is a semicircle

including its diameter

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EXERCISE 11.3 - Question No. 8

Find the cost of polishing a circular table-top of diameter 1.6m, if

The rate of polishing is $Rs15m^2$ (take $\pi = 314$)

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Shazli took a wire of length 44 cm and bent it into the shape of a

circle. Find the radius of that circle. Also find its area. If the same

wire is bent into the shape of a square, what will be the length of

each of its sides? Which figure encloses more area, the circle or the

square?
$$\left(Taken\pi = \frac{22}{7}\right)$$

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EXERCISE 11.3 - Question No. 10

From a circular card sheet of radius 14cm, two circles of radius

3.5cm and a rectangle of length 3cm and breadth 1cm are

removed. (as shown in the adjoining figure). Find the area of the

remaining sheet. (Take $\pi = \frac{22}{7}$)

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EXERCISE 11.3 - Question No. 11

A circle of radius 2cm is cut out from a square piece of an

aluminums sheet of side 6cm. What is the area of the left over

aluminums sheet ? (Take $\pi = 3.14$)

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The circumference of a circle is 31.4cm. Find the radius and the

area of the circle ? (Take $\pi = 3.14$)

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EXERCISE 11.3 - Question No. 13

A circular flower bed is surrounded by a path 4m wide. The

diameter of the flower bed is 66*m*. What is the area of this path ? $(\pi = 3.14)$

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A circular flower garden has an area of $314m^2$. A sprinkler at the

centre of the garden can cover an area that has a radius of 12m.

Will the sprinkler water th entire garden ? (Take $p\pi = 3.14$)

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EXERCISE 11.3 - Question No. 15

Find the circumference of the inner and the outer circles, shown in

the adjoining figure ? (Take $\pi = 3.14$)



How many times a wheel of radius 28 cm must rotate to go 352 m?

(Take
$$\pi = \frac{22}{7}$$
)

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EXERCISE 11.3 - Question No. 17

The minute hand of a circular clock is 15cm long. How far does the

tip of the minute hand move in 1 hour. (Take $\pi = 3.14$)

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A garden is 90 m long and 75 m broad. A path 5 m wide is to be

built outside and around it. Find the area of the path. Also find the

area of the garden in hectare.

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EXERCISE 11.4 - Question No. 2

A 3 m wide path runs outside and around a rectangular park of

length 125 m and breadth 65 m. Find the area of the path

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A picture is painted on a cardboard 8 cm long and 5 cm wide such

that there is a margin of 1.5 cm along each of its sides. Find the

total area of the margin.

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EXERCISE 11.4 - Question No. 4

A verandah of width 2.25 m is constructed all along outside a room

which is 5.5 m long and 4 m wide. Find: (i) the area of the

verandah. (ii) the cost of cementing the floor of the verandah at the

rate of Rs 200 per m2.

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A path 1m wide is built along the border and inside a square garden of side 30m. Find: (i) the area of the path (ii) the cost of planting grass in the remaining portion of the garden at the rate of Rs40 per m^2

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EXERCISE 11.4 - Question No. 6

Two cross roads, each of width 10 m, cut at right angles through the centre of a rectangular park of length 700 m and breadth 300 m and parallel to its sides. Find the area of the roads. Also find the area of the park excluding cross roads. Give the answer in hectares

EXERCISE 11.4 - Question No. 7

Through a rectangular field of length 90 m and breadth 60m, two roads are constructed which are parallel to the sides and cut each other at right angles through the centre of the fields. If the width of each road is 3 m, find (i) the area covered by the roads. (ii) the cost of constructing the roads at the rate of Rs 110 per m^2

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The adjoining figure represents a rectangular lawn with a circular flower bed in the middle. Find: (i) the area of the whole land (ii) the area of the flower bed (iii) the area of the lawn excluding the area of the flower bed (iv) the circumference of the flower bed.

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SOLVED EXAMPLES - Question No. 1

A door-frame of dimensions 3m imes 2m fixed on the wall imension

 $10m \times 10m$. Find the total labour charges for painting the wall if

the labour charges for painting $1m_2$ of the wall is Rs2.50.

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The area of a rectangular sheet is $500m^2$. If the length of the sheet

is 25cm, what is its width? Also find the perimeter of the

rectangular sheet.



SOLVED EXAMPLES - Question No. 3

Anu wants to fence the garden in front of her house (Fig 11.5), on

three sides with lengths 20 m, 12 m and 12 m. Find the cost of

fencing at the rate of Rs 150 per metre

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A wire is in the shape of a square of side 10 cm. If the wire is

rebent into a rectangle of length 12 cm, find its breadth. Which

encloses more area, the square or the rectangle?



SOLVED EXAMPLES - Question No. 5

The area of a square and a rectangle are equal. If the side of the

square is 40 cm and the breadth of the rectangle is 25 cm, find the

length of the rectangle. Also, find the perimeter of the rectangle.



One of the sides and the corresponding height of a parallelogram

are 4 cm and 3 cm respectively. Find the area of the parallelogram

(Fig 11.17).

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SOLVED EXAMPLES - Question No. 7

Find the height x if the area of the parallelogram is $24cm^2$ and the

base is 4 cm.



The two sides of the parallelogram ABCD are 6 cm and 4 cm. The

height corresponding to the base CD is 3 cm (Fig 11.19). Find the

(i) area of the parallelogram. (ii) the height corresponding to the

base AD.

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SOLVED EXAMPLES - Question No. 9

Find the area of the following triangles (Fig 11.20).

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Find *BC*, if the area of the triangle *ABC* is $36cm^2$ and the height

AD is 3cm (Fing 11.21)

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SOLVED EXAMPLES - Question No. 11

In ΔPQR , PR = 8cm, QR = 4cm and PL = 5cm (Fig 11.22).

Find: (i) the area of the ΔPQR (ii) QM

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SOLVED EXAMPLES - Question No. 12

What is the circumference of a circle of diameter 10 cm. (Take

 $\pi = 3.14)$



What is the circumference of a circular disc of radius 14 cm? (Take

 $\pi = rac{22}{7}$)

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SOLVED EXAMPLES - Question No. 14

The radius of a circular pipe is 10cm. What length of a tape is

required to wrap once around the pipe $(\pi = 3.14)$?



Sudhanshu divides a circular disc of radius 7cm in two equal parts.

What is the perimeter of each semicircular shape disc ? (Use



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SOLVED EXAMPLES - Question No. 17

Find the area of a circle of radius 30cm (use $\pi = 3.14$)

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SOLVED EXAMPLES - Question No. 18

Diameter of a circular garden is 9.8 m. Find its area.

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SOLVED EXAMPLES - Question No. 19

The adjoining figure shows two circles with the same centre. The

radius of the larger circle is 10 cm and the radius of the smaller

circle is 4 cm.

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SOLVED EXAMPLES - Question No. 20

A rectangular park is 45 m long and 30 m wide. A path 2.5 m wide

is constructed outside the park. Find the area of the path.



SOLVED EXAMPLES - Question No. 21

A path 5 m wide runs along inside a square park of side 100m.

Find the area of the path. Also find the cost of cementing it at the

rate of Rs250 per $10m^2$.

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SOLVED EXAMPLES - Question No. 22

Two cross roads, each of width 5 m, run at right angles through the centre of a rectangular park of length 70 m and breadth 45 m and parallel to its sides. Find the area of the roads. Also find the cost of constructing the roads at the rate of Rs 105 per m^2 .

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