



MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

MENSURATION

Solved Examples

1. The length and breadth of a rectangular field are 120 mand 75 m respectively,

Find (i) the area of the field and the cost of turfing it at 15 per m^2

(ii) the perimeter of the field and the cost of fencing it at Rs. 40 per m.



Watch Video Solution

2. The length and breadth of a rectangular field are in the ratio 3: 2. If the area of the field is $3456m^2$.Find the cost of fencing it at Rs. 60 per m.

A. Rs. 4400

B. Rs. 10000

C. Rs. 14000

D. Rs. 14400

Answer: D



Watch Video Solution

3. Find the area of a rectangular plot, one side of which measures $35m$ and the diagonal is $37m$.

A. $820m^2$

B. $420m^2$

C. $920m^2$

D. $480m^2$

Answer: B



Watch Video Solution

4. Find the area of a square, the length of whose diagonal is $8\sqrt{2}$ m.

A. 7 m

B. 8 m

C. 9 m

D. 6 m

Answer: B



Watch Video Solution

5. The cost of fencing a square field at Rs.16 per metre is Rs.32000. Find the cost of reaping the field at Rs.35 per $100m^2$.

A. Rs. 97500

B. Rs. 86500

C. Rs. 87500

D. Rs. 77500

Answer: C



Watch Video Solution

6. The area of a square ABCD is 36cm^2 . Find the area of the square obtained by joining the midpoints of the sides of the square ABCD.

A. 17 cm^2

B. 18 cm^2

C. 28 cm^2

D. 10 cm^2

Answer: B



Watch Video Solution

7. A room is 9 m long, 8 m broad and 6.5 m high. It has one door of dimensions $(2\text{m} \times 1.5\text{m})$ and four windows each of

dimensions $(1.5m \times 1m)$. Find the cost of whitewashing the walls at Rs. 25 per m^2 .



[Watch Video Solution](#)

8. A room is 7 m long and 5 m broad. It has one door measuring (2 m by 1.5 m) and two windows, each measuring (1.5 m by 1 m). The cost of painting the walls of the room at Rs. 80 per m^2 is Rs. 5280. Find the height of the room.



[Watch Video Solution](#)

9. A rectangular grassy plot is 112 m long and 78 m broad. It has a 2.5-m-wide gravel path all around it on the inside. Find the area of the path and the cost of constructing it at Rs. 120 per m^2 .



Watch Video Solution

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

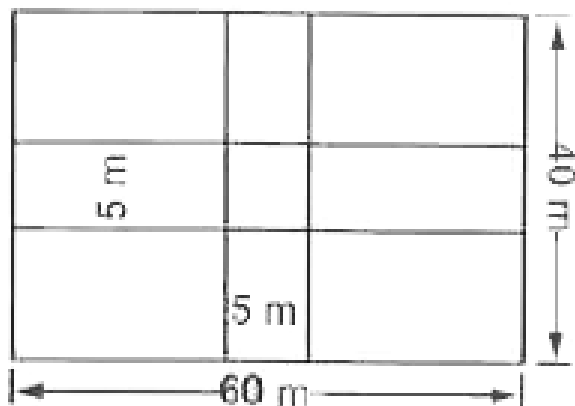
the park. Find the area of the path and the cost of constructing it at Rs. 125 per m^2 .



Watch Video Solution

11. A rectangular lawn is 60 m by 40 m and has two roads. each 5 m wide running in the middle of it, one parallel to its length and the other parallel to the breadth, as shown in the figure. Find the cost of constructing the roads

at Rs. 80 per m^2 .



[Watch Video Solution](#)

12. A room 5 m long and 4 m wide is surrounded by a verandah. If the verandah occupies an area of $22m^2$, find the width of

the verandah. Let ABCD be the room surrounded by a verandah.



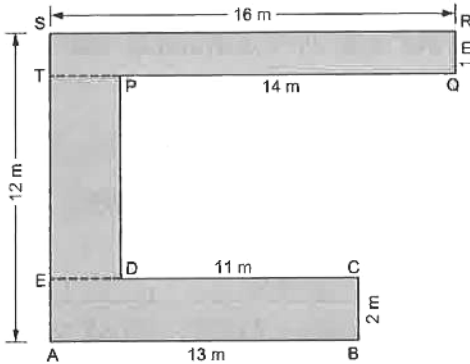
[Watch Video Solution](#)

13. A square lawn has a 2-m-wide path surrounding it. If the area of the path is 136 m, find the area of the lawn.



[Watch Video Solution](#)

14. Calculate the area of the shaded region in the figure given below.



[Watch Video Solution](#)

15. One side of a parallelogram is 14 cm. Its distance from the opposite side is 16.5 cm.

Find the area of the parallelogram

A. 331cm^2

B. 223cm^2

C. 231cm^2

D. 241cm^2

Answer: C



Watch Video Solution

16. The base of a parallelogram is twice its height. If its area is 512cm^2 , find the height.

A. 10 cm

B. 12 cm

C. 8 cm

D. 16 cm

Answer: D



Watch Video Solution

17. Find the area of a rhombus in the lengths of whose diagonals are 36 cm and 22.5cm.



18. Find the area of a rhombus in which each side is 15 cm long and one of whose diagonals is 24

A. 211cm^2

B. 216cm^2

C. 218cm^2

D. 217cm^2

Answer: B



Watch Video Solution

19. If the area of a rhombus is 96cm^2 and one of its diagonals is 16 cm, find its perimeter

A. 70cm

B. 40cm

C. 50cm

D. 60cm

Answer: B



Watch Video Solution

20. Find the area of a triangle in which base = 25 cm and height = 14 cm.

A. 165 cm^2

B. 175 cm^2

C. 185 cm^2

D. 105 cm^2

Answer: B



Watch Video Solution

21. The base of a triangular field is three times its height. If the cost of cultivating the field at Rs. 2800 per hectare is Rs.37800. find its base and height.

A. 900, 300

B. 200, 100

C. 500, 400

D. 800, 500

Answer: A



Watch Video Solution

22. Find the height of a triangle whose base is 15 cm and area 120cm^2

A. 32 cm

B. 16 cm

C. 26 cm

D. 28 cm

Answer: B



Watch Video Solution

23. The area of a right triangle is 40cm^2 . If one of its legs measures 8 cm, find the length of the other leg.

A. 6 cm

B. 8 cm

C. 10 cm

D. 16 cm

Answer: C



24. Find the area of $\triangle ABC$ in which $\angle B = 90^\circ$, $BC = 8$ cm and $AC = 10$ cm. If $BD \perp AC$, then find BD .

A. 4.8 cm

B. 8.4 cm

C. 3.7 cm

D. none of these

Answer: A



[Watch Video Solution](#)

25. Find the area of an equilateral triangle each of whose sides is 10 cm.

[Take $\sqrt{3} = 1.73$].



[Watch Video Solution](#)

26. Find the area of a triangular field whose sides are 78 m, 50 m and 112 m.



[Watch Video Solution](#)

27. Find the area of an isosceles $\triangle ABC$ in which $BC = 8$ cm and $AB = AC = 5$ cm. If $CE \perp AB$, find CE .



Watch Video Solution

28. A diagonal of a quadrilateral is 30 cm in length and the lengths of perpendiculars to it from the opposite vertices are 6.8 cm and 9.6 cm. Find the area of the quadrilateral.



Watch Video Solution

29. Find the circumference of a circle of radius 10.5 cm.

A. 68 cm

B. 66 cm

C. 64 cm

D. 62 cm

Answer: B



Watch Video Solution

30. Find the circumference of a circle of radius 10 cm. (*Take* $\pi = 3.14$.]

A. *72.8cm*

B. *62.8cm*

C. *82.8cm*

D. *92.8cm*

Answer: B



Watch Video Solution

31. Find the diameter of a circle whose circumference is 26.4 cm.

A. 8.4 cm

B. 4.8 cm

C. 8 cm

D. 6 cm

Answer: A



Watch Video Solution

32. The circumference of a circle exceeds its diameter by 18 cm. Find the radius of the circle.



Watch Video Solution

33. The ratio of radii of two circles is 3:4. Find the ratio of their circumferences.

A. 1 : 2

B. 4 : 3

C. 3 : 4

D. 2 : 1

Answer: C



Watch Video Solution

34. The diameter of a wheel of a car is 63 cm. Find the distance travelled by the car during the period in which the wheel makes 1000 revolutions.



Watch Video Solution

35. The diameter of the wheel of a car is 70 cm. How many revolutions will it make to travel 99 km?

A. 43, 000

B. 42, 000

C. 45, 000

D. 40, 000

Answer: C



Watch Video Solution

36. A racetrack is in the form of a ring whose inner circumference is 264 m and the outer circumference is 308 m. Find the width of the track.



Watch Video Solution

37. The inner circumference of a circular track is 220 m and the width of the track is 7 m. Calculate the cost of putting up a fence along

the outer circle of the track at the rate of Rs.
50 per m.

A. 24, 200

B. 23, 200

C. 13, 200

D. 18, 200

Answer: C



Watch Video Solution

38. (i) Find the area of a circle of radius 21 cm.

$$\left[\text{Take } \pi = \frac{22}{7} \right]$$

(ii) Find the area of a circle of radius 10 cm.

$$[\text{Take } \pi = 3.14]$$



Watch Video Solution

39. The circumference of a circle is 88 cm. Find its area.

A. 610cm^2

B. 612cm^2

C. 616cm^2

D. 614cm^2

Answer: C



Watch Video Solution

40. The area of a circular tin plate is 38.5m^2 .

Find its circumference.

A. 11 m

B. 22 m

C. 24 m

D. 41 m

Answer: B



Watch Video Solution

41. A copper wire when bent in the form of a square encloses an area of 121cm^2 . If the same wire is bent in the form of a circle, find the area enclosed by it.

A. 184cm^2

B. 164cm^2

C. 154cm^2

D. 174cm^2

Answer: C



Watch Video Solution

42. The circumferences of two circles are in the ratio 3:4. Find the ratio of their areas.

A. 9:16

B. 16:9

C. 6:9

D. 9:6

Answer: A



Watch Video Solution

43. The areas of two circles are in the ratio 25:36. Find the ratio of their circumferences.

A. 6:5

B. 5:6

C. 7:6

D. 6:7

Answer: B



Watch Video Solution

44. The diameter of a circular park is 84 m. A 3.5-m-wide road runs on the outside around it.

Find the cost of constructing the road at Rs. 200 per m^2 .



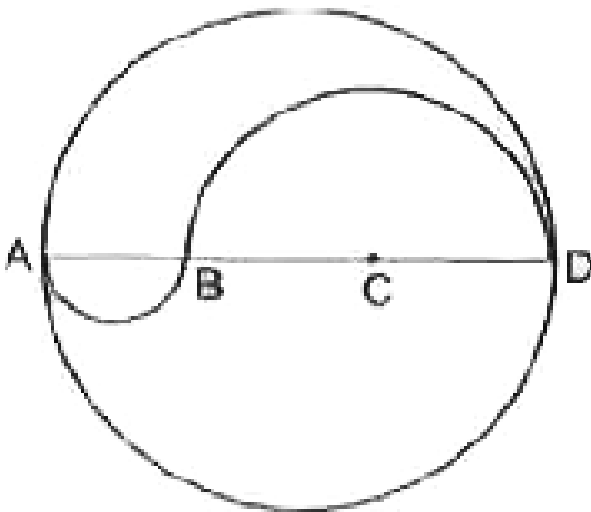
[Watch Video Solution](#)

45. Each side of a square park is 80 m. At each corner of the park there is a flower bed in the form of a quadrant of a circle of radius 14 m, as shown in the figure. Find the area of the remaining part of the park.



[Watch Video Solution](#)

46. ABCD is a diameter of a circle of radius 6 cm such that $AB = BC = CD$. Semicircles are drawn on AB and BD as diameters, as shown in the given figure. Find the area of the shaded region.



 [Watch Video Solution](#)

Exercise 20 A

1. Find the area of the rectangle whose dimensions are:(i) length = 24.5 m, breadth = 18 m (ii) length = 12.5 m, breadth = 8 dm.



[Watch Video Solution](#)

2. Find the area of a rectangular plot, one side of which is 48 m and its diagonal is 50 m.

A. $372m^2$

B. $472m^2$

C. $572m^2$

D. $672m^2$

Answer: D



Watch Video Solution

3. The sides of a rectangular park are in the ratio 4:3. If its area is 1728 m. find the cost of fencing it at Rs.30 per metre.

A. Rs 5540

B. Rs 5000

C. Rs 5040

D. none of these

Answer: C



Watch Video Solution

4. The area of a rectangular field is $3584m^2$ and its length is 64 m. A boy runs around the

field at the rate of 6 km//h. How long will he take to go 5 times around it?



[Watch Video Solution](#)

5. A verandah is 40 m long and 15 m broad. It is to be paved with stones, each measuring 6 dm by 5 dm. Find the number of stones required.



[Watch Video Solution](#)

6. Find the cost of carpeting a room 13 m by 9 m with a carpet of width 75 cm at the rate of Rs.105 per metre.



[Watch Video Solution](#)

7. The cost of carpeting a room 15 m long with a carpet of width 75 cm at Rs.80 per metre is Rs.19200. Find the width of the room.



[Watch Video Solution](#)

8. The length and breadth of a rectangular piece of land are in the ratio of 5:3. If the total cost of fencing it at rs. 24 per metre is Rs.9600, find its length and breadth



[Watch Video Solution](#)

9. Find the length of the largest pole that can be placed in a hall 10 m long, 10 m wide and 5 m high.[Hint. Length of the diagonal of the room = $\sqrt{l^2 + b^2 + h^2}$].



[Watch Video Solution](#)

10. Find the area of a square each of whose sides measures 8.5 m.

A. $92.25m^2$

B. $82.25m^2$

C. $72.25m^2$

D. $74.25m^2$

Answer: C



Watch Video Solution

11. Find the area of the square, the length of whose diagonal is (i) 72 cm, (ii) 2.4 m.



Watch Video Solution

12. The area of a square is $16200m^2$. Find the length of its diagonal.

A. 170m

B. 180m

C. 160m

D. 280m

Answer: B



Watch Video Solution

13. The area of a square field is $\frac{1}{2}$ hectare. Find the length of its diagonal in metres.

[Hint. 1 hectare = $10000m^2$]



Watch Video Solution

14. The area of a square plot is 6084 m sq..
Find the length of the wire which can go four
times along the boundary of the plot.

A. 1258m

B. 1248m

C. 1348m

D. 1448m

Answer: B



Watch Video Solution

15. 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 figure encloses more area and by how much?



Watch Video Solution

16. A godown is 50 m long, 40 m broad and 10 m high. Find the cost of whitewashing its four walls and ceiling at Rs.20 per square metre.



Watch Video Solution

17. The area of the 4 walls of a room is $168m^2$.

The breadth and height of the room are 10 m and 4 m respectively. Find the length of the room.



Watch Video Solution

18. The area of the 4 walls of a room is $77m^2$.

The length and breadth of the room are 7.5 m and 3.5 m respectively. Find the height of the room.



[Watch Video Solution](#)

19. The area of four walls of a room is $120m^2$.
If the length of the room is twice its breadth
and the height is 4 m, find the area of the
floor.



[Watch Video Solution](#)

20. A room is 8.5 m long, 6.5 m broad and 3.4
m high. It has two doors, each measuring (1.5

m by 1 m) and two windows, each measuring (2 m by 1 m). Find the cost of painting its four walls at 160 per m^2 .



[Watch Video Solution](#)

Exercise 20 B

1. A rectangular grassy plot is 75 m long and 60 m broad. It has a path of width 2 m all around it on the inside. Find the area of the

path and the cost of constructing it at Rs. 125 per m^2



[Watch Video Solution](#)

2. A rectangular plot of land measures 95 m by 72 m. Inside the plot, a path of uniform width of 3.5 m is to be constructed all around. The rest of the plot is to be laid with grass. Find the total expenses involved in constructing the path at Rs.80 per m and laying the grass at Rs.40 per m^2 .



[Watch Video Solution](#)

3. A saree is 5 m long and 1.3 m wide. A border of width 25 cm is printed along its sides. Find the cost of printing the border at Rs.1 per 10cm^2 .



[Watch Video Solution](#)

4. A rectangular grassy lawn measuring 38 m by 25 m has been surrounded externally by a 2.5-m-wide path. Calculate the cost of

gravelling the path at the rate of Rs.120 per m^2



[Watch Video Solution](#)

5. A room 9.5 m long and 6 m wide is surrounded by a 1.25-m-wide verandah. Calculate the cost of cementing the floor of this verandah at Rs. 80 per m^2 .



[Watch Video Solution](#)

6. Each side of a square flower bed is 2 m 80 cm long. It is extended by digging a strip 30 cm wide all around it. Find the area of the enlarged flower bed and also the increase in the area of the flower bed.



[Watch Video Solution](#)

7. The length and breadth of a park are in the ratio 2:1 and its perimeter is 240 m. A path 2 m

wide runs inside it, along its boundary. Find the cost of paving the path at Rs.80 per m^2 .



[Watch Video Solution](#)

8. A school has a hall which is 22 m long and 15.5 m broad. A carpet is laid inside the hall leaving all around a margin of 75 cm from the walls. Find the area of the carpet and the area of the strip left uncovered. If the width of the carpet is 82 cm, find its cost at the rate of rs.60 per m.



[Watch Video Solution](#)

9. A square lawn is surrounded by a path 2.5 m wide. If the area of the path is $165m^2$ find the area of the lawn.



[Watch Video Solution](#)

10. The length and breadth of a rectangular park are in the ratio 5:2. A 2.5 m wide path running all around the outside the park has an area $305m^2$. Find the dimensions of the park.



[Watch Video Solution](#)

11. A rectangular lawn 70 m by 50 m has two roads, each 5 m wide, running through its middle, one parallel to its length and the other parallel to its breadth. Find the cost of constructing the roads at Rs.120 per m^2 .



[Watch Video Solution](#)

12. A 115-m-long and 64-m-broad lawn has two roads at right angles, one 2 m wide, running parallel to its length, and the other 2.5 m wide, running parallel to its breadth. Find the cost of gravelling the roads at Rs.60 per m^2 .



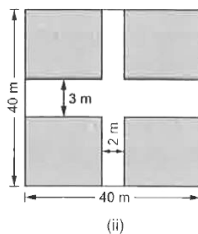
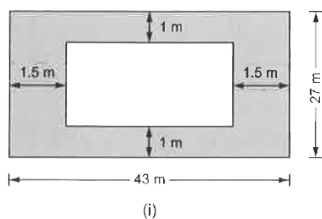
Watch Video Solution

13. A rectangular field is 50 m by 40 m. It has two roads through its centre, running parallel to its sides. The width of the longer and the

shorter roads are 2 m and 2.5-m-
respectively Find the area of the roads and the
area of the remaining portion of the field.

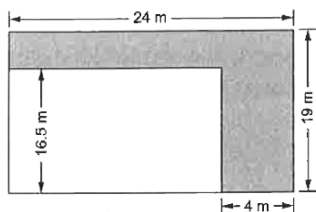
 [Watch Video Solution](#)

14. Calculate the area of the shaded region in
each of the figures given below:

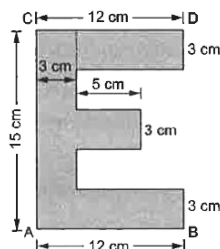


 [Watch Video Solution](#)

15. Calculate the area of the shaded region in each of the figures given below. Fig (11) has a uniform width of 3 cm and it is given that $AB=CD$.



(i)

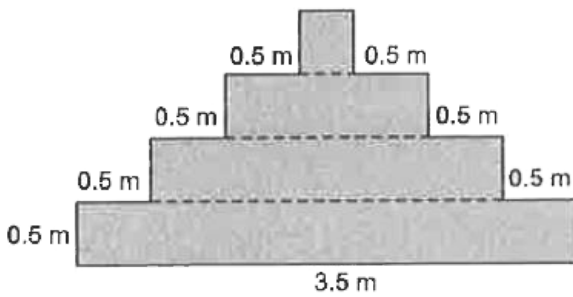


(ii)



Watch Video Solution

16. In the given figure, all steps are 0.5 m high. Find the area of the shaded region.



[Watch Video Solution](#)

Exercise 20 C

1. Find the area of a parallelogram with base 32 cm and height 16.5 cm.



[Watch Video Solution](#)

2. The base of a parallelogram measures 1 m 60 cm and its height is 75 cm. Find its area in m^2 .



[Watch Video Solution](#)

3. In a parallelogram it is being given that base = 14 dm and height 6.5 dm. Find its area in (i) cm^2 . (ii) m^2 .



[Watch Video Solution](#)

4. Find the height of a parallelogram whose area is 54cm^2 and the base is 15 cm.

A. 6.6cm

B. 3.6cm

C. 5.6cm

D. 4.6cm

Answer: B



Watch Video Solution

5. One side of a parallelogram is 18 cm long and its area is 153cm^2 . Find the distance of the given side from its opposite side.

A. 6.5cm

B. 7.5cm

C. 8.5cm

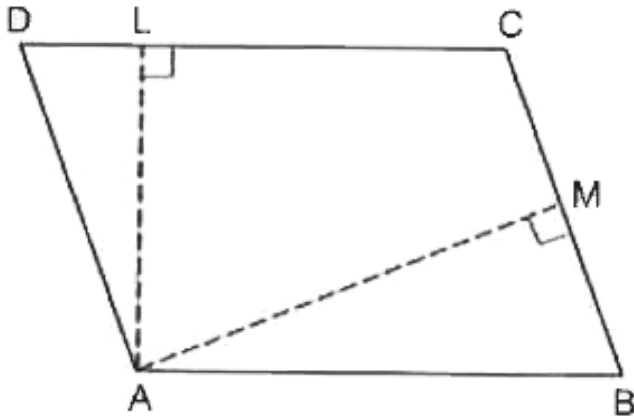
D. 9.5cm

Answer: C



Watch Video Solution

6. In a parallelogram ABCD, $AB = 18$ cm, $BC = 12$ cm, $AL \perp DC$ and $AM \perp BC$. If $AL = 6.4$ cm, find the length of AM



[Watch Video Solution](#)

7. The adjacent sides of a parallelogram are 15 cm and 8 cm. If the distance between the longer sides is 4 cm, find the distance between the shorter sides.



[Watch Video Solution](#)

8. The height of a parallelogram is one-third of its base. If the area of the parallelogram is 108cm^2 , find its base and height.



[Watch Video Solution](#)

9. The base of a parallelogram is twice its height. If the area of the parallelogram is 512cm^2 , find the base and the height.



[Watch Video Solution](#)

10. Find the area of a rhombus in which
Q(i) each side = 12 cm and height = 7.5 cm,
(ii) each side = 2 dm and height = 12.6 cm.



[Watch Video Solution](#)

11. Find the area of a rhombus in which

Q(i) each side = 2 dm and height = 12.6 cm.

(ii) 8 dm 5 cm and 5 dm 6 cm.



Watch Video Solution

12. Find the area of a rhombus each side of which measures 20 cm and one of whose diagonal is 24 cm



Watch Video Solution

13. The area of a rhombus is 148.8cm^2 . If one of its diagonals is 19.2 cm, find the length of the other diagonal.



Watch Video Solution

14. The area of a rhombus is 119cm^2 and its perimeter is 56 cm. Find its height.

A. 10.5cm

B. 9.5cm

C. 8.5cm

D. 7.5cm

Answer: C



Watch Video Solution

15. The area of a rhombus is 441cm^2 and its height is 17.5 cm. Find the length of each side of the rhombus.



Watch Video Solution

16. The area of a rhombus is equal to the area of a triangle having base 24.8 cm and the corresponding height 16.5 cm. If one of the diagonals of the rhombus is 22 cm, find the length of the other diagonal.



Watch Video Solution

Exercise 20 D

1. Find the area of the triangle in which

Q(i) base = 42 cm and height = 25 cm

(ii) base = 16.8 m and height = 75 cm

(iii) base = 8 dm and height = 35 cm.



[Watch Video Solution](#)

2. Find the height of a triangle having an area of 72cm^2 and base 16 cm.

A. 7cm

B. 8cm

C. 9cm

D. 4cm

Answer: C



Watch Video Solution

3. Find the height of a triangular region having an area of $224m^2$ and base 28 m.



Watch Video Solution

4. Find the base of a triangle whose area is 90cm^2 and height 12 cm.



[Watch Video Solution](#)

5. The base of a triangular field is three times its height. If the cost of cultivating the field at Rs.1080 per hectare is Rs.14580, find its base and height.



[Watch Video Solution](#)

6. The area of right triangular region is 129.5cm^2 . If one of the sides containing the right angle is 14.8 cm, find the other one.



Watch Video Solution

7. Find the area of a right triangle whose base is 1.2 m and hypotenuse 3.7 m.



Watch Video Solution

8. The legs of a right triangle are in the ratio 3 : 4 and its area is 1014cm^2 . Find the lengths of its legs.



[Watch Video Solution](#)

9. One side of a right-angled triangular scarf is 80 cm and its longest side is 1 m. Find its cost at the rate of Rs.250 per m^2 .



[Watch Video Solution](#)

10. Find the area of an equilateral triangle each of whose sides measures (1) 18 cm, (11) 20 cm. [*Take* $\sqrt{3} = 1.73$]



Watch Video Solution

11. The area of an equilateral triangle is $(16 \times \sqrt{3}) \text{ cm}^2$. Find the length of each side of the triangle.



Watch Video Solution

12. Find the length of the height of an equilateral triangle of side 24 cm.

[Take $\sqrt{3} = 1.73$]



Watch Video Solution

13. Find the area of the triangle in which

Q(i) $a = 13$ m, $b = 14$ m, $c = 15$ m,

(ii) $a = 52$ cm, $b = 56$ cm, $c = 60$ cm,

(iii) $a = 91$ m, $b = 98$ m, $c = 105$ m.



Watch Video Solution

14. The lengths of the sides of a triangle are 33 cm, 44 cm and 55 cm respectively. Find the area of the triangle and hence find the height corresponding to the side measuring 44 cm.



Watch Video Solution

15. The sides of a triangle are in the ratio 13:14:15 and its perimeter is 84 cm. Find the area of the triangle.



Watch Video Solution

16. The sides of a triangle are 42 cm, 34 cm and 20 cm. Calculate its area and the length of the height on the longest side.



Watch Video Solution

17. The base of an isosceles triangle is 48 cm and one of its equal sides is 30 cm. Find the area of the triangle



Watch Video Solution

18. The base of an isosceles triangle is 12 cm and its perimeter is 32 cm. Find its area.



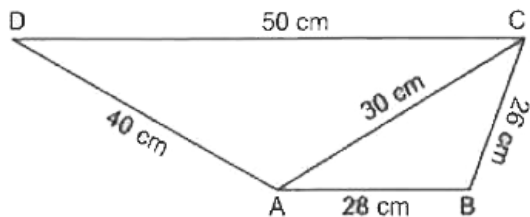
Watch Video Solution

19. A diagonal of a quadrilateral is 26 cm and the perpendiculars drawn to it from the opposite vertices are 12.8 cm and 11.2 cm. Find the area of the quadrilateral.



Watch Video Solution

20. In a quadrilateral ABCD, $AB = 28$ cm, $BC = 26$ cm, $CD = 50$ cm, $DA = 40$ cm and diagonal $AC = 30$ cm. Find the area of the quadrilateral.



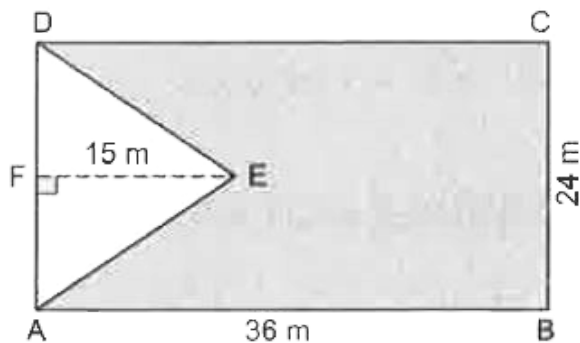
[Watch Video Solution](#)

21. In the given figure, ABCD is a rectangle with length = 36 m and breadth = 24 m. In $\triangle ADE$, $EF \perp AD$ and $EF = 15$ m. Calculate the area of

the

shaded

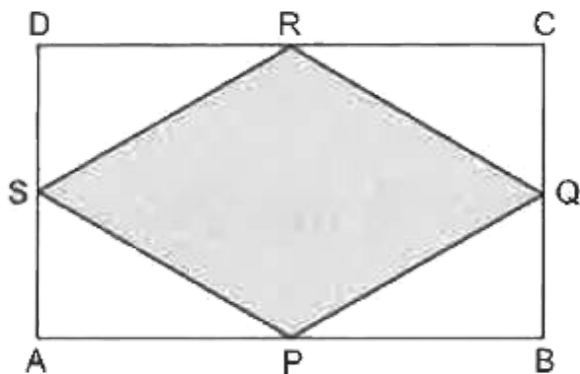
region



[Watch Video Solution](#)

22. In the given figure, ABCD is a rectangle in which $AB = 40$ cm and $BC = 25$ cm. If P, Q, R, S be the midpoints of AB, BC, CD and DA

respectively, find the area of the shaded

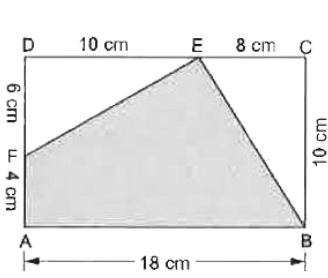


region.

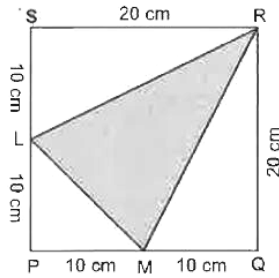


[Watch Video Solution](#)

23. In the following figures, find the area of the shaded region.



(i)



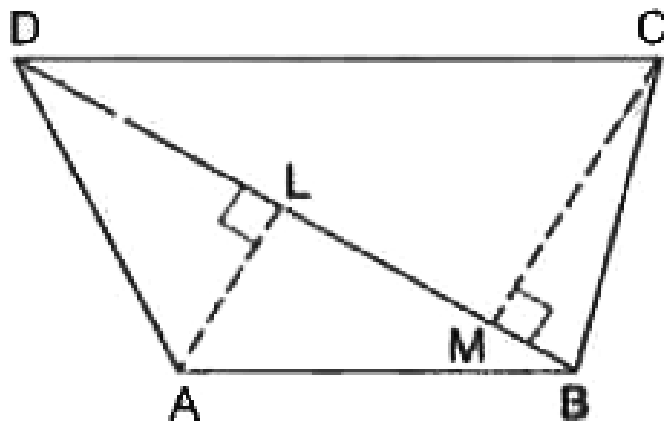
(ii)



Watch Video Solution

24. Find the area of quadrilateral ABCD in which diagonal $BD = 24$ cm. $AL \perp BD$ and

$CM \perp BD$. such that $AL = 5$ cm and $CM = 8$



cm.



Watch Video Solution

Exercise 20 E

1. Find the circumference of a circle whose radius is

(i) 28 cm

(ii) 1.4 m.



Watch Video Solution

2. Find the circumference of a circle whose diameter is

Q(i) 35 cm

(ii) 4.9 m.



Watch Video Solution

3. Find the circumference of a circle of radius 15 cm.

[Take $\pi = 3.14$.]



Watch Video Solution

4. Find the radius of a circle whose circumference is 57.2 cm.

A. 5.1cm

B. 6.1cm

C. 9.1cm

D. 8.1cm

Answer: C



Watch Video Solution

5. Find the diameter of a circle whose circumference is 63.8 m .

A. 23.3m

B. 20.3m

C. 21.3m

D. 22.3m

Answer: B



Watch Video Solution

6. The circumference of a circle exceeds its diameter by 30 cm. Find the radius of the circle.



Watch Video Solution

7. The ratio of the radii of two circles is 5:3.

Find the ratio of their circumferences,



[Watch Video Solution](#)

8. How long will a man take to make a round of a circular field of radius 21 m, cycling at the speed of $8\text{km} / \text{h}$?



[Watch Video Solution](#)

9. A racetrack is in the form of a ring whose inner circumference is 528 m and the outer circumference is 616 m. Find the width of the track.



Watch Video Solution

10. The inner circumference of a circular track is 330 m. The track is 10.5 m wide everywhere. Calculate the cost of putting up a fence along the outer circle at the rate of Rs.20 per metre.





[Watch Video Solution](#)

11. One circle has a radius of 98 cm and a second concentric circle has a radius of 1 m 26 cm. How much longer is the circumference of the second circle than that of the first?



[Watch Video Solution](#)

12. A piece of wire is bent in the shape of an equilateral triangle each of whose sides

measures 8 cm. This wire is rebent to form a circular ring. What is the diameter of the ring?



[Watch Video Solution](#)

13. A rhombus has the same perimeter as the circumference of a circle. If each side of the rhombus measures 33 cm, find the radius of the circle.



[Watch Video Solution](#)

14. A wire in the form of a rectangle 18.7 cm long and 14.3 cm wide is reshaped and bent into the form of a circle. Find the radius of the circle so formed.



Watch Video Solution

15. A wire is looped in the form of a circle of radius 35 cm. If it is rebent in the form of a square, what will be the length of each side of the square?





[Watch Video Solution](#)

16. A well of diameter 140 cm has a stone parapet around it. If the length of the outer edge of the parapet is 616 cm, find the width of the parapet.



[Watch Video Solution](#)

17. Find the distance covered by the wheel of a bus in 2000 rotations if the diameter of the wheel is 98 cm.



[Watch Video Solution](#)

18. The diameter of the wheel of a cycle is 70 cm. How far will it go in 250 revolutions?



[Watch Video Solution](#)

19. The diameter of the wheel of a car is 77 cm. How many revolutions will it make to travel 121 km?



[Watch Video Solution](#)

20. A bicycle wheel makes 5000 revolutions in moving 11 km. Find the circumference and the diameter of the wheel.



Watch Video Solution

21. The hour and minute hands of a clock are 4.2 cm and 7 cm long respectively. Find the sum of the distances covered by their tips in 1 day.



Watch Video Solution

Exercise 20 F

1. Find the area of a circle whose radius is

Q(i) 21 cm.

(ii) 3.5 m



[Watch Video Solution](#)

2. Find the area of a circle whose diameter is

Q(i) 28 cm.

(ii) 1.4 m.



[Watch Video Solution](#)

3. The circumference of a circle is 264 cm. Find its area.



[Watch Video Solution](#)

4. The circumference of a circle is 35.2 m. Find its area.



[Watch Video Solution](#)

5. The area of a circle is 616cm^2 . Find its circumference



[Watch Video Solution](#)

6. The area of a circle is 1386m^2 . Find its circumference.



[Watch Video Solution](#)

7. The ratio of the radius of two circles is 4:5.

Find the ratio of their areas.



[Watch Video Solution](#)

8. A horse is tied to a pole in a park with a string 21 m long. Find the area over which the horse can graze.

A. $1286m^2$

B. $1586m^2$

C. $1386m^2$

D. $1486m^2$

Answer: C



Watch Video Solution

9. A steel wire when bent in the form of a square encloses an area of 100 cm^2 . If the same wire is bent in the form of a circle, find the area of the circle.



Watch Video Solution

10. A wire is in a circular shape of radius 28 cm. If it is bent in the form of a square, what will be the area of the square formed?



Watch Video Solution

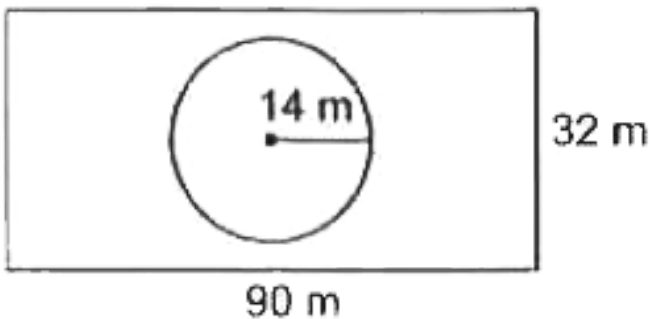
11. A rectangular sheet of acrylic is 34 cm by 24 cm. From it, 64 circular buttons, each of diameter 3.5 cm, have been cut out. Find the area of the remaining sheet.





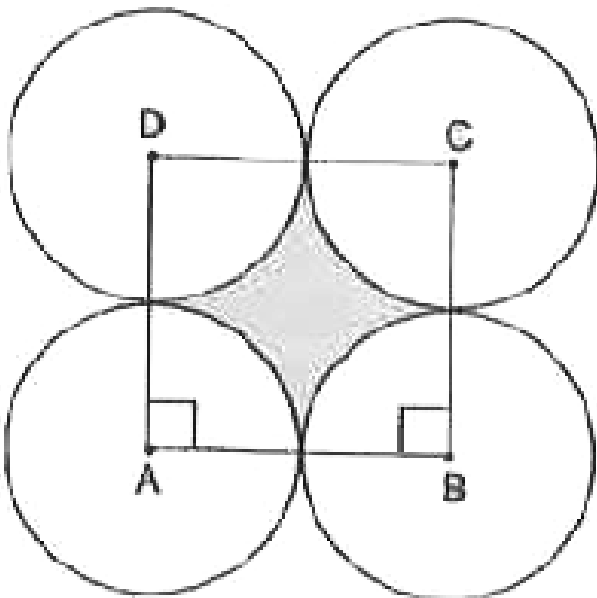
[Watch Video Solution](#)

12. A rectangular ground is 90 m long and 32 m broad. In the middle of the ground there is a circular tank of radius 14 metres. Find the cost of turfing the remaining portion at the rate of Rs. 50 per square metre.



[Watch Video Solution](#)

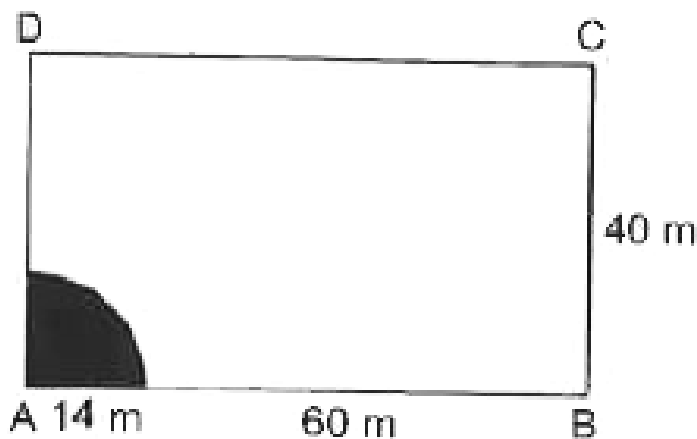
13. In the given figure, four equal circles are described about corners of a square so that each circle touches two of the circles as shown in the figure. Find the area of the shaded region, each side of the square measuring 14 cm.





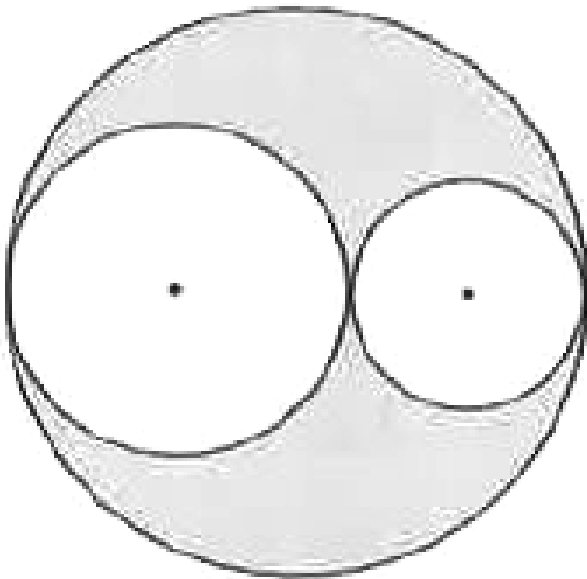
Watch Video Solution

14. A horse is tethered to one corner of a rectangular field, 60 m by 40 m, by a rope 14 m long. On how much area can the horse graze?



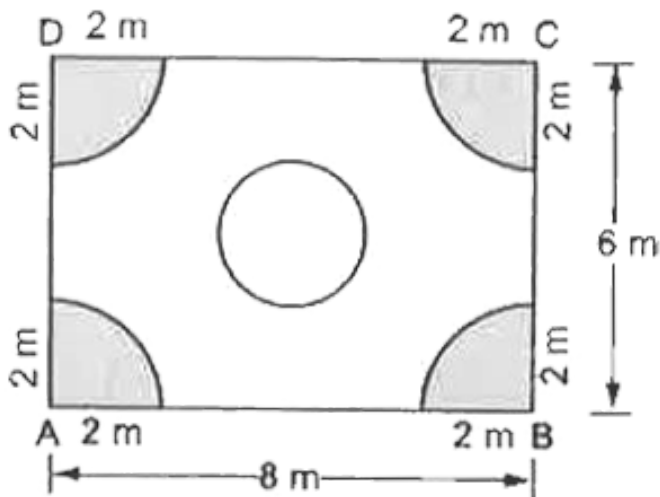
Watch Video Solution

15. In the given figure, a circle of diameter 21 cm is given. Inside this circle, two circles with diameters $\frac{2}{3}$ and $\frac{1}{3}$ of the diameter of the big circle have been drawn, as shown in the given figure. Find the area of the shaded region.



[Watch Video Solution](#)

16. In each of the corners, there is a flower bed in the form of a quadrant of a circle of radius 2 m. Also, there is a flower bed in the form of a circle of radius 2 m in the middle of the plot. Find the area of the remaining plot.



Watch Video Solution

Exercise 20 G Mcq

1. The length of a rectangle is 16 cm and the length of its diagonal is 20 cm. The area of the rectangle is

A. 320cm^2

B. 160cm^2

C. 192cm^2

D. 156cm^2

Answer: C



Watch Video Solution

2. Each diagonal of a square is 12 cm long. Its area is

A. 144cm^2

B. 72cm^2

C. 36cm^2

D. none of these

Answer: B



Watch Video Solution

3. The area of a square is 200cm^2 . The length of its diagonal is

A. 10cm

B. 20cm

C. $10\sqrt{2}\text{cm}$

D. 14.1cm

Answer: B



Watch Video Solution

4. The area of a square field is 0.5 hectare. The length of its diagonal is

A. 100m

B. 50m

C. 250m

D. $50\sqrt{2}m$

Answer: A



Watch Video Solution

5. The length of a rectangular field is thrice its breadth and its perimeter is 240 m. The length of the field is

A. 80 m

B. 120m

C. 90m

D. none of these

Answer: C



Watch Video Solution

6. On increasing each side of a square by 25%, the increase in area will be 25% (b) 55% 55.5% (d) 56.25%

A. 0.25

B. 0.55

C. 0.405

D. 0.5625

Answer: B



Watch Video Solution

7. The ratio of the area of a square to that of the square drawn on its diagonal is :

A. $1 : \sqrt{2}$

B. $1 : 2$

C. $1 : 3$

D. $1 : 4$

Answer: B



Watch Video Solution

8. The perimeters of a square and a rectangle are equal. If their area be 'A' m^2 and 'B' m^2 respectively, then correct statement is

A. $A < B$

B. $A \leq B$

C. $A > B$

D. $A \geq B$

Answer: C



Watch Video Solution

9. The length and breadth of a rectangular field are in the ratio 5 : 3 and its perimeter is 480 m. The area of the field is

A. $7200m^2$

B. $13500m^2$

C. $15000m^2$

D. $54000m^2$

Answer: B



Watch Video Solution

10. The length of a room is 15 m. The cost of carpeting it with a carpet 75 cm wide at Rs.50 per metre is Rs.6000. The width of the room is

A. 6m

B. 8m

C. 13.4m

D. 18m

Answer: A



Watch Video Solution

11. The sides of a triangle measure 13 cm, 14 cm and 15 cm. Its area is

A. $84cm^2$

B. $91cm^2$

C. $168cm^2$

D. $182cm^2$

Answer: A



Watch Video Solution

12. The base and height of a triangle are 12 m and 8 m respectively. Its area is

A. 96m^2

B. 48m^2

C. $16\sqrt{3}\text{m}^2$

D. $16\sqrt{2}\text{m}^2$

Answer: B



Watch Video Solution

13. The area of an equilateral triangle is $4\sqrt{3}cm^2$. The length of each of its sides is

A. 3cm

B. 4cm

C. $2\sqrt{3}m$

D. $\frac{1}{2}\sqrt{3}cm$

Answer: B



Watch Video Solution

14. Each side of an equilateral triangle is 8 cm long. Its area is

A. $32cm^2$

B. $64cm^2$

C. $16\sqrt{3}cm^2$

D. $16\sqrt{2}cm^2$

Answer: C



Watch Video Solution

15. The height of an equilateral triangle is $\sqrt{6}$ cm. Its area is

A. $3\sqrt{3}cm$

B. $2\sqrt{3}cm^2$

C. $2\sqrt{2}$

D. $6\sqrt{2}cm^2$

Answer: B



Watch Video Solution

16. One side of a parallelogram is 16 cm and the distance of this side from the opposite side is 4.5 cm. The area of the parallelogram is

A. $36cm^2$

B. $72cm^2$

C. $18cm^2$

D. $54cm^2$

Answer: B



Watch Video Solution

17. The lengths of the diagonals of a rhombus are 24 cm and 18 cm respectively. Its area is

A. $432cm^2$

B. $216cm^2$

C. $108cm^2$

D. $144cm^2$

Answer: B



Watch Video Solution

18. The difference between the circumference and radius of a circle is 37 cm. The area of the circle is

A. $111cm^2$

B. $148cm^2$

C. $154cm^2$

D. $259cm^2$

Answer: C



Watch Video Solution

19. The perimeter of the floor of a room is 18 m and its height is 3 m. What is the area of 4 walls of the room?

A. $21m^2$

B. $42m^2$

C. $54m^2$

D. $108m^2$

Answer: C



Watch Video Solution

20. How many metres of carpet 63 cm wide will be required to cover the floor of a room 14 m by 9m

A. 200m

B. 210m

C. 220m

D. 185m

Answer: A



Watch Video Solution

21. If the diagonal of a rectangle is 17 cm long and its perimeter is 46 cm, the area of the rectangle is

A. 100cm^2

B. 110cm^2

C. 120cm^2

D. 150cm^2

Answer: C



Watch Video Solution

22. If the ratio of the areas of two squares is 9:1, then the ratio of their perimeters is

A. 2:1

B. 3:1

C. 3:2

D. 4:1

Answer: B



Watch Video Solution

23. The ratio of the areas of two squares, one having its diagonal double that of the other , is 2 : 1 (b) 3 : 1 3 : 2 (d) 4 : 1

A. 2 : 1

B. 3 : 1

C. 3 : 2

D. 4 : 1

Answer: D



Watch Video Solution

24. The area of a rectangle 144 m long is the same as that of a square of side 84 m. The width of the rectangle is

A. 7m

B. 14m

C. 49m

D. none of these

Answer: C



Watch Video Solution

25. The ratio of the area of a square of side a and that of an equilateral triangle of side a , is

A. 2 : 1

B. $2 : \sqrt{3}$

C. 4 : 3

D. $4 : \sqrt{3}$

Answer: D



Watch Video Solution

26. The area of a square is equal to the area of a circle. What is the ratio between the side of the square and the radius of the circle?

A. $\sqrt{\pi} : 1$

B. $1 : \sqrt{3}$

C. $1 : \pi$

D. $\pi : 1$

Answer: A



Watch Video Solution

27. Each side of an equilateral triangle is equal to the radius of a circle whose area is 154 cm^2 .

The area of the triangle is

A. $\frac{7\sqrt{3}}{4} \text{ cm}^2$

B. $\frac{49\sqrt{3}}{4} \text{ cm}^2$

C. 35 cm^2

D. 49 cm^2

Answer: B



Watch Video Solution

28. The area of a rhombus is 36 cm and the length of one of its diagonals is 6 cm. The length of the second diagonal is

A. 6cm

B. $6\sqrt{2}cm$

C. 12cm

D. none of these

Answer: C



Watch Video Solution

29. The area of a rhombus is 144 cm and one of its diagonals is double the other. The length of the longer diagonal is

A. 12cm

B. 16cm

C. 18cm

D. 24cm

Answer: D



Watch Video Solution

30. The area of a circle is $24.64m^2$. The circumference of the circle is

A. 14.64m

B. 16.36m

C. 17.60m

D. 18.40m

Answer: C



Watch Video Solution

31. The area of a circle is increased by 22 cm² when its radius is increased by 1 cm. The original radius of the circle is

A. 6cm

B. 3.2cm

C. 3cm

D. 3.5cm

Answer: C



Watch Video Solution

32. The radius of a circular wheel is 1.75 m. How many revolutions will it make in travelling 11 km?

A. 10

B. 100

C. 1000

D. 10000

Answer: C



Watch Video Solution

Test Paper

1. Find the area of a rectangular plot one side of which is 48 m and its diagonal 50 m.



Watch Video Solution

2. A room is 9 m by 8 m by 6.5 m. It has one door of dimensions $(2m \times 1.5m)$ and four windows each of dimensions $(1.5m \times 1m)$. Find the cost of painting the walls at 50 per m.



[Watch Video Solution](#)

3. Find the area of a square, the length of whose diagonal is 64 cm.



[Watch Video Solution](#)

4. A square lawn has a 2 m wide path surrounding it. If the area of the path is 136 m^2 , find the area of the lawn.



[Watch Video Solution](#)

5. A rectangular lawn is 30 m by 20 m. It has two roads each 2 m wide running in the middle of it one parallel to the length and the other parallel to the breadth. Find the area of the roads.



[Watch Video Solution](#)

6. Find the area of a rhombus having each side equal to 13 cm and one of whose diagonals is 24 cm.



[Watch Video Solution](#)

7. The area of a parallelogram is $338m^2$. If its altitude is twice the corresponding base, find the base and the altitude.



[Watch Video Solution](#)

8. Find the area of a right triangle having base = 24 cm and hypotenuse = 25 cm.

A. 48 cm^2

B. 54 cm^2

C. 64 cm^2

D. 84 cm^2

Answer: D



Watch Video Solution

9. The radius of the wheel of a car is 35 cm. How many revolutions will it make to travel 33 km?



Watch Video Solution

10. Find the radius of a circle whose area is 616cm^2 .

A. 12 cm

B. 13 cm

C. 14 cm

D. 11 cm

Answer: C



Watch Video Solution

Test Paper M C Q

1. The area of a circle is 154cm^2 . Its diameter is

A. 14 cm

B. 11 cm

C. 7 cm

D. 22 cm

Answer: A



Watch Video Solution

2. The circumference of a circle is 44 cm. Its area is

A. 308cm^2

B. 154cm^2

C. 77cm^2

D. 616cm^2

Answer: B



Watch Video Solution

3. Each diagonal of a square is 14 cm long. Its area is

A. 196cm^2

B. 88cm^2

C. 98cm^2

D. 147cm^2

Answer: C



Watch Video Solution

4. The area of a square is 50cm^2 . The length of its diagonal is

A. $5\sqrt{2}\text{cm}$

B. 10 cm

C. $10\sqrt{2}cm$

D. 8 cm

Answer: b



Watch Video Solution

5. The length and breadth of a rectangular park are in the ratio 4:3 and its perimeter is 56 m. The area of the field is

A. $192m^2$

B. $300m^2$

C. $432m^2$

D. $228m^2$

Answer: A



Watch Video Solution

6. The sides of triangle are 13 cm, 14 cm and 15 cm. The area of the triangle is

A. 84cm^2

B. 91cm^2

C. 105cm^2

D. 97.5cm^2

Answer: b



Watch Video Solution

7. Each side of an equilateral triangle is 8 cm.

Its area is

A. $16\sqrt{3}cm^2$

B. $32\sqrt{3}cm^2$

C. $24\sqrt{3}cm^2$

D. $8\sqrt{3}cm^2$

Answer: a



Watch Video Solution

8. One side of a parallelogram is 14 cm and the distance of this side from the opposite side is 6.5 cm. The area of the parallelogram is

A. 45.5cm^2

B. 91cm^2

C. 182cm^2

D. 190cm^2

Answer: B



Watch Video Solution

9. The lengths of the diagonals of a rhombus are 18 cm and 15 cm. The area of the rhombus is

A. 270cm^2

B. 135cm^2

C. 90cm^2

D. 180cm^2

Answer: B



Watch Video Solution

Test Paper Fill In The Blanks

1. If d_1 and d_2 be the diagonals of a rhombus, then its area is (.....) sq units.



Watch Video Solution

2. If l , b and h be the length, breadth and height respectively of a room, then area of its 4 walls = (.....) sq units.



Watch Video Solution

3. 1 hectare = m^2 .



Watch Video Solution

4. $1cm^2$ are = m^2 .



Watch Video Solution

5. If each side of a triangle is a cm, then its area = cm^2 .



Watch Video Solution

Test Paper True False

1. Area of a triangle = (*base* \times *height*).



[Watch Video Solution](#)

2. Area of a parallelogram = Base \times Altitude



[Watch Video Solution](#)

3. Area of a circle = $2\pi r^2$.



[Watch Video Solution](#)

4. Circumference of a circle



[Watch Video Solution](#)