



MATHS

BOOKS - ARIHANT PUBLICATION

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AREA

Solved Examples

1. The area of a triangle whose sides are 9 cm ,
12 cm and 15 cm is

A. 54cm^2

B. 60cm^2

C. 64cm^2

D. None of these

Answer: A



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2. The perimeter of a right angled triangle is 12 cm . The hypotenuse is 5 cm , then the area of the triangle is

A. 8cm^2

B. 10cm^2

C. 6cm^2

D. None of these

Answer: C



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3. The perimeter of an equilateral triangle whose area is $4\sqrt{3}\text{cm}^2$ is equal to

(a) 10 cm

(b) 12 cm

(c) 15 cm

(d) 20 cm

A. 10 cm

B. 12 cm

C. 15 cm

D. 20 cm

Answer: B



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4. A rectangular plot is $180m^2$ in area. If its length is 18 m, then find its perimeter is

(a) 56 m

(b) 60 m

(c) 15 m

(d) 20 m

A. 56m

B. 60m

C. 15m

D. 20 m

Answer: A



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5. The area of the floor of a rectangular hall of length 40 m is $960m^2$. Carpets of size $6m \times 4m$ are available. Then , the number of carpets are required to cover the hall is

- (a) 10
- (b) 20
- (c) 30
- (d) 40

A. 10

B. 20

C. 30

D. 40

Answer: D



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Exam Booster For Cracking Exam

1. The lengths of the sides of a triangle are in the ratio 3:4:5 and its perimeter is 144cm . Find the area of the triangle and the height corresponding to the longest side.

A. 684cm^2

B. 664cm^2

C. 764cm^2

D. 864cm^2

Answer: D



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2. The area of an isosceles triangle each of whose equal sides is 13cm and whose base is 24 cm is:

A. 60cm^2

B. 55cm^2

C. 50cm^2

D. 40cm^2

Answer: A





3. The difference between the sides at right angles in a right - angled triangle is 14 cm . The area of the triangle is 120cm^2 . Calculate the perimeter of the triangle.

A. 68 cm

B. 64 cm

C. 60 cm

D. 58 cm

Answer: C



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4. A rectangular grassy plot is $110\text{ m} \times 65\text{m}$. It has a uniform path 2.5 m wide all around it on the inside . The area of the path is

A. $850m^2$

B. $650m^2$

C. $950m^2$

D. $1050m^2$

Answer: B



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5. Within a rectangular garden 10 m wide and 20 m long, we wish to pave a walk around the borders of uniform width so as to leave an area of 96m^2 for flowers. How wide should the walk be? (a) 1 m (b) 2 m (c) 2.1 m (d) 2.5 m

A. 1m

B. 2m

C. 2.5m

D. 2.56m

Answer: B



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6. The cost of levelling a rectangular ground at rupees 1.25 per m^2 is rupees 900. if the length of the ground is 30 m, then the width is

A. 6m

B. 18 m

C. 24m

D. 36m

Answer: C



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7. If the area of a square with side 'b' is equal to the area of a triangle with base 'b' , then altitude of the triangle is

A. $\frac{b}{2}$

B. $2b$

C. b

D. $4b$

Answer: B



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8. The adjacent sides of a parallelogram are 36 cm and 27 cm is length. If the distance

between the shorter sides is 12 cm, find the distance between the longer sides.

A. 9 cm

B. 10 cm

C. 11 cm

D. 12 cm

Answer: A



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9. Find the area of a rhombus one side of which measures 20 cm and one of whose diagonals is 24 cm.

A. 364cm^2

B. 374cm^2

C. 384cm^2

D. 394cm^2

Answer: C



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10. Find the area of the quadrilateral whose sides measure 9 cm , 40 cm, 28 cm and 15 cm , and in which the angle between the first two sides is right angle .

A. 206cm^2

B. 306cm^2

C. 356cm^2

D. 380cm^2

Answer: B



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11. The area of the circle whose circumference is equal to the perimeter of a square of side 11 cm is

A. 154cm^2

B. 144cm^2

C. 134cm^2

D. 124cm^2

Answer: A



12. A horse is tied to a pole with 28 m long string. Find the area where the horse can graze. (Take $\pi = \frac{22}{7}$).

A. $246m^2$

B. $2404m^2$

C. $2464m^2$

D. $2164m^2$

Answer: C



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13. A field is in the form of a circle . The cost of plough the field at rupees 1.50 per m^2 is rupees 5775 . The cost fencing the field at rupees 8.50 per m is

A. rupees 1870

B. rupees 2870

C. rupees 1970

D. rupees 2970

Answer: A



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14. A bicycle wheel makes 5000 revolutions in moving 11 km. Find the diameter of the wheel.

A. 50 cm

B. 60 cm

C. 70 cm

D. 80 cm

Answer: C



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15. The diameter of the driving wheel of a bus is 140cm. How many revolutions per minute must the wheel make in order to keep a speed of 66km per hour?

A. 200

B. 250

C. 300

D. 350

Answer: B



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16. The base of an isosceles triangle measures 24 cm and its area is 192cm^2 , Find its perimeter.

A. 4 cm

B. 64 cm

C. 32 cm

D. 20 cm

Answer: B



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17. If the length and breadth of a rectangular plot are increased by 50 % and 20 % respectively , then the new area is how many times the original area?

A. $\frac{4}{5}$

B. $\frac{9}{5}$

C. $\frac{3}{5}$

D. None of these

Answer: B



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18. The length of a rectangle is increased by 60%. By what percent would the width have to be reduced to maintain the same area ?

A. 0.37

B. 0.32

C. $37\frac{1}{2}\%$

D. None of these

Answer: C



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19. The perimeter of a rectangular field is 240 m and the ratio between the length and breadth is 5:3 . What is the area of field?

A. $3370m^2$

B. $3735m^2$

C. $3375m^2$

D. None of these

Answer: C



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20. In a four sider- field , the length of the longer diagonal is 128 m. the lengths of perpendiculars from the opposite vertices

upon this diagonal are 22.7 m and 17.3 and

Find the area of the field.

A. $128m^2$

B. $2559m^2$

C. $256m^2$

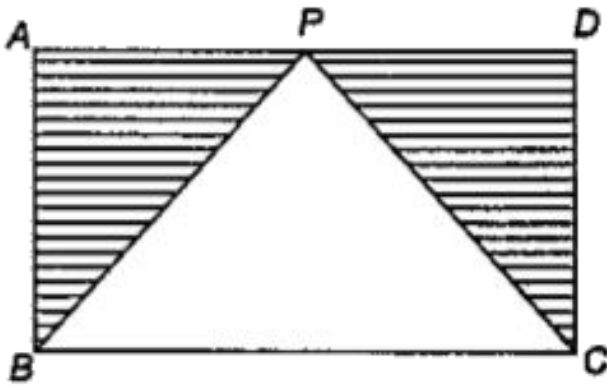
D. None of these

Answer: B



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21. In the adjoining figure, $AD = 2AB = a$. If P is the mid-point of AD , then area of the shaded region is



- A. a^2
- B. $\frac{a^2}{2}$
- C. $\frac{a^2}{3}$
- D. $\frac{a^2}{4}$

Answer: D



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22. A paper is in the form of a rectangle ABCD and $AB = 18$ cm, $BC = 14$ cm. A semi-circular passing with BC as diameter is cut off. Area of the remaining paper is

A. 252cm^2

B. 175cm^2

C. 77cm^2

D. None of these

Answer: B



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23. A paper is in the form of a square of side 20 m. Semi-circles are drawn inside the square paper on two opposite sides as diameter. The semi-circular portions are cut off. Area of the remaining paper is

A. $(400 - 100\pi)m^2$

B. $100\pi m^2$

C. $400m^2$

D. None of these

Answer: A



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24. In a circle of radius 42 cm, an arc subtends an angle of 72° at the centre. What is the length of the arc?

A. 52.8cm

B. 42cm

C. 52cm

D. 44cm

Answer: A



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25. Two circles touch externally. The sum of their areas is $130\pi\text{sqcm}$. and the distance

between their centres is 14cm. Find the radii of the circles.

A. 11 cm, 3 cm

B. 14 cm , 5 cm

C. 13 cm , 9 cm

D. None of these

Answer: A



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26. The ratio of the areas of the incircle and circumcircle of a square is

A. 1 : 2

B. 1 : 3

C. 2 : : 1

D. None of these

Answer: A



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27. The area of circle inscribed in an equilateral triangle of side 12 cm is

A. 12cm^2

B. πcm^2

C. $12\pi\text{cm}^2$

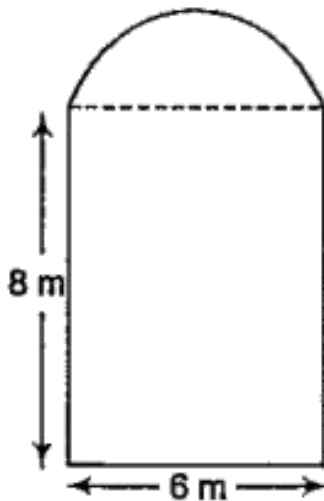
D. None of these

Answer: C



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28. The cross-section of a railway tunnel is a rectangle 6 m broad and 8 m high, surrounded by a semi-circle as shown in the adjoining figure. The tunnel is 35 m long. What is the cost of plastering the internal surface of the tunnel excluding the floor at the rate of *Rs.* 3



per m^2 ?

A. rupees 267

B. rupees 270

C. rupees 2670

D. None of these

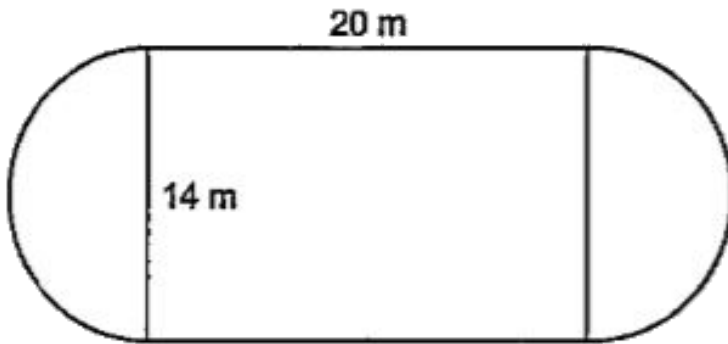
Answer: C



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29. A garden is in the form of a rectangle with semi-circular ends on the either side as shown in the diagram below. The length and breadth of the rectangle are 20 m and 14 m,

respectively. The cost of leveling the plot at 25 per m^2 is



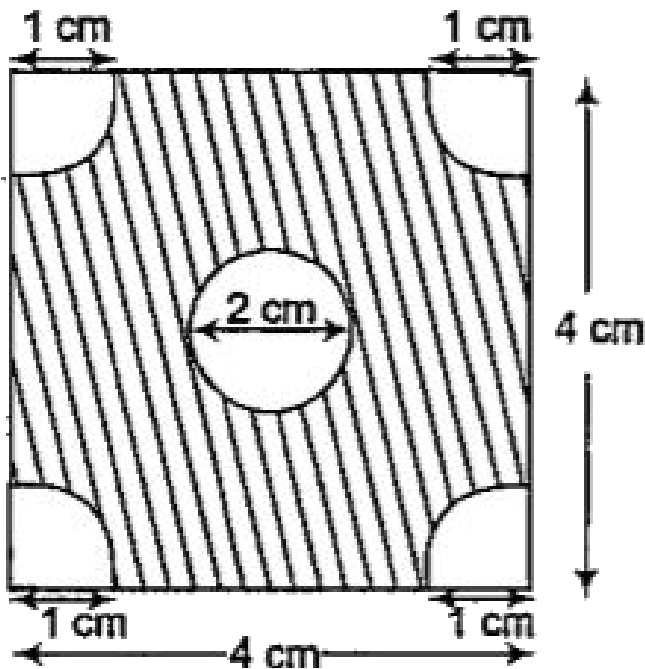
- A. Rs. 10850
- B. Rs. 434
- C. Rs. 25
- D. None of these

Answer: A



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30. The four corners are circle quadrants and at the centre there is a circle. The area of shaded region is



A. $(16 - \pi)cm^2$

B. $(16 - 2\pi)cm^2$

C. $(16 - 2\pi)m^2$

D. None of these

Answer: B



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