Perimeter

1. A rhombus was formed from a rectangle with sides 12 cm and 8 cm, whose perimeter was equal to the perimeter of the rectangle and had an angle of 120^0. What was the area of rhombus?
(A) $25\sqrt{3}$ cm^2 **(B)** $50\sqrt{3}$ cm^2
(C) $40\sqrt{3}$ cm^2 **(D)** $\frac{100\sqrt{3}}{3}$ cm^2

2. The cost of installing a paved floor in a circular room is Rs.1540 at the rate of Rs.10 per sqm. The cost of fencing on this at Rs. 6 per meter will be –
(A) Rs. 260 **(B)** Rs. 264
(C) Rs. 250 **(D)** Rs. 265

3. ABCD is a quadrilateral inscribed in a circle (radius = r). The bisectors of the angles DAB and BCD intersect the circle at X and Y respectively. What is the length of the straight line XY?
(A) 2r **(B)** (r + 2)
(C) $\frac{\pi r^2}{2}$ **(D)** πr^2

4. The circumference of a circle is 15m more than its diameter. Find the radius of the circle–
(A) 7 cm **(B)** 3.5cm
(C) 4 cm **(D)** 8 cm

5. The inner and outer circumference of the spherical ring are 22cm and 44 cm respectively. The thickness of the ring is –
(A) 5.5 cm **(B)** 1.5 cm
(C) 3.5 cm **(D)** 2.5 cm

6. An outer circular path is built around a circular garden. If the outer and inner perimeter of the path are 220m and 44m respectively, find the area of the path.
(A) 3960 m^2 **(B)** 3696 m^2
(C) 3069 m^2 **(D)** 3096 m^2

7. The area of an equilateral triangle inscribed in a circle is $9\sqrt{3}$ cm^2. What is the area of the circle?
(A) 16π **(B)** $12\sqrt{3}$
(C) $15\sqrt{3}$ **(D)** 12π

8. A races ground is in the form of a ring whose internal circumference is 88m and outer circumference is 154 m. What is the width of the ground?
(A) 12 m **(B)** 15 m
(C) 16.5 m **(D)** 10.5m

9. The diameter of a semi-circular region is 14 m, so what will be the perimeter of that area?
(A) 44 m **(B)** 22 m
(C) 36m **(D)** 58m

10. If the wheel of a car has a diameter of 56 cm, how many times will the wheel of the car rotate during a journey of 88 km?
(A) 500 **(B)** 50, 000
(C) 5, 000 **(D)** 5, 00, 000

11. Kazipet, which has a population of 4000, requires 9 liters of water per person per day. It has a cuboid tank measuring 15m × 8m × 6m. If the tank is full of water, how long will the water in this tank last?
(A) 20 days **(B)** 25 days
(C) 10 days **(D)** 30 days

12. The sum of the lengths of the cube's cores is 3/5 of the perimeter of the square. If the numerical value of the volume of the cube is equal to the numerical value of the area of the square, then the perimeter of the square is –
(A) 500 unit **(B)** 360 unit
(C) 480 unit **(D)** 300 unit

13. The center area of a square room of 10 m sides is covered with square tank carpet and the remaining floor is covered with oil cloth. The price of carpet and oil cloth respectively is Rs. 15 and Rs. 6.50 per square meter, and their total value is Rs. Is 1338.50. What will be the width of the oil cloth border?
(A) 2m **(B)** 5m
(C) 1m **(D)** 1/2m

14. Four equal circles are formed on the four sides of a square in such a way that each circle touches two other circles. What will be the area outside the perimeter of the circles towards the center of the square? If the measure of each side of the square is 28 cm.

(A) 168 cm^2 **(B)** 40 cm^2
(C) 42 cm^2 **(D)** 32 cm^2

15. The area of a square ground is 31684 m on which wire is to be tied at 1, 2, 3, 4 m height from the ground. If the required length for each wire is 5% more than the perimeter of the field, what length of wire will be required?

(A) 2**09**0 m **(B)** 2099 m
(C) 29**09** m **(D)** 2990.4 m

16. A 0.5 cm line segment was cut from each corner of a square with an edge of 3 cm, the severed portion having a vertex. What is the perimeter and the area (respectively) of the octagon thus formed?

(A) $10\sqrt{2}$cm and 8 cm^2
(B) 8 cm and 8 cm^2
(C) $8\sqrt{2}$cm and 8 cm^2
(D) $(8 + 2\sqrt{2})$ cm and 8.5 cm^2

17. The numerical value of the area of a square is equal to half the numerical value of each of its diagonals. What is the numerical value of diagonal?

(A) 1 **(B)** $\sqrt{2}$
(C) 2 **(D)** $\frac{\sqrt{2}}{2}$

18. The edge of a square farm is 110 meters. Two routes, 5 meters wide, keep its edges in the center, passing parallel to edges, cutting each other. Area of the roads is –

(A) 1000 $meter^2$ **(B)** 1100 $meter^2$
(C) 1075 $meter^2$ **(D)** 975 $meter^2$

19. A rectangular park measuring 30 m × 22 m has two pavements 2 m wide. One north to south and the other east to west, and they both cut each other in the middle of the park. If the cost of construction of the road is Rs. 15 per square meter, then calculate the total cost of construction of the road.

(A) rs. 1545 **(B)** rs. 1560
(C) rs. 1490 **(D)** rs. 1500

20. The sum of the lengths of the sides of a cube is equal to twice the perimeter of a square. If the numerical value of the volume of the cube is equal to the numerical value of the area of the square, then the perimeter of the square will be:

(A) 10.5 unit **(B)** 27 unit
(C) 13.5 unit **(D)** 12.5 unit