Area

1. What is the area of a square with a side length of 5 cm?

   A) 20 cm^2

   B) 25 cm^2

   C) 30 cm^2

   D) 10 cm^2

   Answer: B) 25 cm^2

2. The area of a rectangle is 48 cm^2. If its length is 8 cm, what is its width?

   A) 4 cm

   B) 6 cm

   C) 8 cm

   D) 12 cm

   Answer: B) 6 cm

3. Find the area of a triangle with a base of 10 cm and a height of 6 cm.

   A) 30 cm^2

   B) 60 cm^2

   C) 15 cm^2

   D) 16 cm^2

   Answer: A) 30 cm^2

4. What is the area of a circle with a radius of 7 cm? (Use $\pi = 22/7$)

   A) 154 cm^2

   B) 44 cm^2

   C) 77 cm^2

   D) 144 cm^2

   Answer: A) 154 cm^2

5. The area of a parallelogram is 60 cm^2 and its height is 5 cm. Find the length of its base.

A) 10 cm

B) 12 cm

C) 15 cm

D) 20 cm

Answer: B) 12 cm

6. What is the area of a right-angled triangle with legs of length 3 cm and 4 cm?

A) 6 cm^2

B) 7 cm^2

C) 12 cm^2

D) 5 cm^2

Answer: A) 6 cm^2

7. The perimeter of a square is 36 cm. What is its area?

A) 36 cm^2

B) 72 cm^2

C) 81 cm^2

D) 9 cm^2

Answer: C) 81 cm^2

8. Find the area of a trapezium with parallel sides of 10 cm and 12 cm and a height of 4 cm.

A) 22 cm^2

B) 44 cm^2

C) 88 cm^2

D) 480 cm^2

Answer: B) 44 cm^2

9. The area of a circle is 616 cm^2. What is its diameter? (Use $\pi = 22/7$)

A) 14 cm

B) 28 cm

C) 7 cm

D) 21 cm

Answer: B) 28 cm

10. A rectangular field is 50 m long and 40 m wide. What is the cost of leveling it at Rs. 2 per square meter?

A) Rs. 2000

B) Rs. 4000

C) Rs. 180

D) Rs. 90

Answer: B) Rs. 4000

11. What is the area of an equilateral triangle with a side length of 4 cm?

A) $4\sqrt{3}$ cm²

B) 16 cm²

C) 8 cm²

D) 6 cm²

Answer: A) $4\sqrt{3}$ cm²

12. The diagonals of a rhombus are 8 cm and 6 cm. What is its area?

A) 48 cm²

B) 24 cm²

C) 14 cm²

D) 7 cm²

Answer: B) 24 cm²

13. 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.

A) 8 cm

B) 10 cm

C) 12 cm

D) 6 cm

Answer: A) 8 cm

14. The area of a square field is 24200 m². How long will a lady take to cross the field diagonally at the rate of 6.6 km/hr?

A) 2 minutes

B) 2.4 minutes

C) 3 minutes

D) 3.6 minutes

Answer: A) 2 minutes

15. What is the area of the largest circle that can be cut out of a square of side 14 cm?

A) 154 cm²

B) 196 cm²

C) 44 cm²

D) 77 cm²

Answer: A) 154 cm²

16. The base of a triangular field is three times its altitude. If the cost of cultivating the field at Rs. 24.68 per hectare is Rs. 333.18, find the base of the field.

A) 900 m

B) 600 m

C) 300 m

D) 1200 m

Answer: A) 900 m

17. The ratio of the areas of two squares is 1:4. The ratio of their perimeters is:

A) 1:2

B) 1:4

C) 1:16

D) 2:1

Answer: A) 1:2

18. What is the area of a semicircle with a radius of 14 cm?

A) 308 cm^2

B) 154 cm^2

C) 616 cm^2

D) 77 cm^2

Answer: A) 308 cm^2

19. A rectangular lawn 80 m long and 50 m wide has two roads, each 5 m wide, running through its middle, one parallel to its length and the other parallel to its width. Find the cost of gravelling the roads at Rs. 20 per m^2.

A) Rs. 12,500

B) Rs. 13,000

C) Rs. 13,500

D) Rs. 14,000

Answer: A) Rs. 12,500

20. The area of a rectangle is equal to the area of a circle with a circumference of 44 cm. What is the length of the rectangle if its breadth is 11 cm?

A) 12 cm

B) 14 cm

C) 16 cm

D) 18 cm

Answer: B) 14 cm

21. What is the area of a kite whose diagonals are 10 cm and 8.2 cm?

A) 41 cm^2

B) 82 cm^2

C) 18.2 cm^2

D) 9.1 cm^2

Answer: A) 41 cm^2

22. A floor is 5 m long and 4 m wide. A square carpet of sides 3 m is laid on the floor. Find the area of the floor that is not carpeted.

A) 11 m^2

B) 9 m^2

C) 20 m^2

D) 1 m^2

Answer: A) 11 m^2

23. The altitude of a triangle is 5/3 times its base. If the altitude is increased by 4 cm and the base is decreased by 2 cm, the area remains the same. Find the base of the triangle.

A) 10 cm

B) 12 cm

C) 15 cm

D) 20 cm

Answer: B) 12 cm

24. What is the area of a regular hexagon with a side length of 6 cm?

A) $54\sqrt{3}$ cm^2

B) $36\sqrt{3}$ cm^2

C) $27\sqrt{3}$ cm^2

D) $18\sqrt{3}$ cm^2

Answer: A) $54\sqrt{3}$ cm^2

25. The length of a rectangle is twice its breadth. If its area is 288 cm^2, then the length of the rectangle is:

A) 12 cm

B) 24 cm

C) 18 cm

D) 16 cm

Answer: B) 24 cm

26. The area of a sector of a circle with a radius of 10 cm and an angle of 36° is:

A) 10π cm²

B) 20π cm²

C) 36π cm²

D) 5π cm²

Answer: A) 10π cm²

27. The sides of a triangular park are in the ratio 3:4:5 and its perimeter is 300 m. Find its area.

A) 3000 m²

B) 6000 m²

C) 7500 m²

D) 9000 m²

Answer: B) 6000 m²

28. The area of a circular field is 13.86 hectares. The cost of fencing it at a rate of Rs. 4.40 per meter is:

A) Rs. 5808

B) Rs. 5708

C) Rs. 5608

D) Rs. 5508

Answer: A) Rs. 5808

29. What is the area of an isosceles triangle with equal sides of 5 cm and a base of 8 cm?

A) 12 cm²

B) 20 cm²

C) 24 cm²

D) 40 cm²

Answer: A) 12 cm²

30. A room 8m long and 6m wide is to be covered by a carpet 2m wide. The length of the carpet required is:

A) 12 m

B) 24 m

C) 36 m

D) 48 m

Answer: B) 24 m

31. If the radius of a circle is doubled, its area becomes:

A) Double

B) Triple

C) Four times

D) Half

Answer: C) Four times

32. What is the area of a quadrant of a circle with a circumference of 22 cm?

A) 9.625 cm^2

B) 19.25 cm^2

C) 38.5 cm^2

D) 77 cm^2

Answer: A) 9.625 cm^2

33. The area of a rhombus is 144 cm^2 and one of its diagonals is twice the other. The lengths of its diagonals are:

A) 12 cm, 24 cm

B) 6 cm, 12 cm

C) 10 cm, 20 cm

D) 8 cm, 16 cm

Answer: A) 12 cm, 24 cm

34. A garden is in the form of a rectangle with a semicircular end. The rectangle is 16 m long and 14 m wide. Find the area of the garden.

A) 301 m^2

B) 401 m^2

C) 201 m^2

D) 501 m^2

Answer: A) 301 m²

35. The area of a square is equal to the area of a rectangle of length 16 cm and breadth 9 cm. The side of the square is:

A) 10 cm

B) 12 cm

C) 14 cm

D) 15 cm

Answer: B) 12 cm

36. The lengths of the sides of a triangle are 5 cm, 12 cm, and 13 cm. The area of the triangle is:

A) 30 cm²

B) 60 cm²

C) 32.5 cm²

D) 65 cm²

Answer: A) 30 cm²

37. The perimeter of a rectangle is 60 m. If its length is twice its breadth, then its area is:

A) 160 m²

B) 180 m²

C) 200 m²

D) 220 m²

Answer: C) 200 m²

38. The area of a circle inscribed in a square of side 6 cm is:

A) 9π cm²

B) 18π cm²

C) 36π cm²

D) 12π cm²

Answer: A) 9π cm²

39. The area of a field in the shape of a trapezium measures 1440 m^2. The perpendicular distance between its parallel sides is 24 m. If the ratio of the parallel sides is 5:3, the length of the longer parallel side is:

A) 75 m

B) 45 m

C) 120 m

D) 60 m

Answer: A) 75 m

40. What is the area of a ring whose inner and outer radii are 10 cm and 12 cm respectively?

A) 44π cm^2

B) 22π cm^2

C) 120π cm^2

D) 100π cm^2

Answer: A) 44π cm^2

41. One side of a rectangular field is 15 m and one of its diagonals is 17 m. Find the area of the field.

A) 120 m^2

B) 130 m^2

C) 140 m^2

D) 150 m^2

Answer: A) 120 m^2

42. The area of the four walls of a room is 77 m^2. The length and breadth of the room are 7.5 m and 3.5 m. The height of the room is:

A) 7.7 m

B) 3.5 m

C) 4.5 m

D) 6.5 m

Answer: B) 3.5 m

43. The area of a square that can be inscribed in a circle of radius 8 cm is:

A) 256 cm^2

B) 128 cm^2

C) $64\sqrt{2}$ cm^2

D) 64 cm^2

Answer: B) 128 cm^2

44. A rectangular grassy plot is 110 m by 65 m. It has a uniform path 2.5 m wide all around it on the inside. Find the area of the path.

A) 825 m^2

B) 850 m^2

C) 875 m^2

D) 900 m^2

Answer: B) 850 m^2

45. The area of a parallelogram is 72 cm^2 and its altitude is twice the corresponding base. The length of the base is:

A) 6 cm

B) 8 cm

C) 9 cm

D) 12 cm

Answer: A) 6 cm

46. What is the area of the shaded region if the radius of the larger circle is 10 cm and the smaller circle is 4 cm?

A) 84π cm^2

B) 96π cm^2

C) 116π cm^2

D) 100π cm^2

Answer: A) 84π cm^2

47. The base and altitude of a triangle are in the ratio 3:2. If the area of the triangle is 108 cm^2, then its base is:

A) 12 cm

B) 18 cm

C) 24 cm

D) 27 cm

Answer: B) 18 cm

48. The circumference of a circular plot is 220 m. A path of 7 m width is laid around the plot. Find the area of the path.

A) 1694 m²

B) 1794 m²

C) 1894 m²

D) 1994 m²

Answer: A) 1694 m²

49. What is the area of a scalene triangle with sides 8 cm, 10 cm, and 12 cm?

A) 15√7 cm²

B) 10√7 cm²

C) 5√7 cm²

D) 20√7 cm²

Answer: A) 15√7 cm²

50. A rectangle has an area of 120 cm² and a perimeter of 46 cm. The length of its diagonal is:

A) 15 cm

B) 17 cm

C) 19 cm

D) 21 cm

Answer: B) 17 cm

51. The area of an equilateral triangle with a height of 6 cm is:

A) 12√3 cm²

B) 18√3 cm²

C) $24\sqrt{3}$ cm²

D) $36\sqrt{3}$ cm²

Answer: A) $12\sqrt{3}$ cm²

52. The area of the largest triangle that can be inscribed in a semicircle of radius 'r' is:

A) r^2

B) $2r^2$

C) $r^2/2$

D) $r^3/2$

Answer: A) r^2

53. The length of a rectangle is increased by 10% and its breadth is decreased by 10%. The new area is:

A) Unchanged

B) Increased by 1%

C) Decreased by 1%

D) Increased by 10%

Answer: C) Decreased by 1%

54. The area of a circle is 38.5 cm². Its circumference is:

A) 22 cm

B) 24 cm

C) 26 cm

D) 28 cm

Answer: A) 22 cm

55. The perimeter of a rhombus is 52 m and the length of the longer diagonal is 24 m. The area of the rhombus is:

A) 120 m²

B) 108 m²

C) 96 m²

D) 84 m²

Answer: A) 120 m²

56. What is the area of a regular octagon with a side of 10 cm?

A) 100(1+√2) cm²

B) 200(1+√2) cm²

C) 300(1+√2) cm²

D) 400(1+√2) cm²

Answer: B) 200(1+√2) cm²

57. The sides of a rectangular park are in the ratio 4:3. If its area is 1728 m², the cost of fencing it at Rs. 30 per meter is:

A) Rs. 4200

B) Rs. 4800

C) Rs. 5400

D) Rs. 6000

Answer: C) Rs. 5400

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

A) 154 cm²

B) 144 cm²

C) 134 cm²

D) 124 cm²

Answer: A) 154 cm²

59. The area of an isosceles right-angled triangle is 32 cm². The length of its hypotenuse is:

A) 8 cm

B) 8√2 cm

C) 16 cm

D) 16√2 cm

Answer: C) 16 cm

60. A circular wire of radius 42 cm is cut and bent in the form of a rectangle whose sides are in the ratio of 6:5. The smaller side of the rectangle is:

A) 50 cm

B) 60 cm

C) 70 cm

D) 80 cm

Answer: B) 60 cm

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

A) 1:1

B) 1:2

C) 1:3

D) 1:4

Answer: B) 1:2

62. The area of a square park is 25 sq. km. The time taken to complete a round of the field once, at a speed of 3 km/hr is:

A) 4 hours 40 min

B) 5 hours 40 min

C) 6 hours 40 min

D) 7 hours 40 min

Answer: C) 6 hours 40 min

63. The area of a triangle with vertices (1, 2), (3, 4) and (5, 1) is:

A) 3 sq. units

B) 4 sq. units

C) 5 sq. units

D) 6 sq. units

Answer: C) 5 sq. units

64. If the perimeter of a circle is equal to that of a square, then the ratio of their areas is:

A) 4:π

B) π:4

C) 1:1

D) 2:π

Answer: A) 4:π

65. A cow is tethered by a rope of length 14 m. The area it can graze is:

A) 616 m²

B) 308 m²

C) 154 m²

D) 77 m²

Answer: A) 616 m²

66. The area of a rectangle is 460 square meters. If the length is 15% more than the breadth, what is the breadth of the rectangular field?

A) 15 meters

B) 20 meters

C) 25 meters

D) 30 meters

Answer: B) 20 meters

67. The area of a circle that can be inscribed in an equilateral triangle of side 6 cm is:

A) π cm²

B) 2π cm²

C) 3π cm²

D) 4π cm²

Answer: C) 3π cm²

68. A path of uniform width of 2 m surrounds a square park of side 20 m. The area of the path is:

A) 176 m²

B) 160 m²

C) 144 m²

D) 128 m²

Answer: A) 176 m²

69. What is the area of a triangle with a perimeter of 36 cm and sides in the ratio 3:4:5?

A) 54 cm²

B) 60 cm²

C) 72 cm²

D) 108 cm²

Answer: A) 54 cm²

70. The areas of two similar triangles are 16 cm² and 25 cm². The ratio of their corresponding altitudes is:

A) 4:5

B) 5:4

C) 16:25

D) 25:16

Answer: A) 4:5

71. The area of a rectangle is $x^2 + 7x + 10$. One of its sides is (x+2). What is the other side?

A) x+5

B) x+7

C) x+10

D) x+3

Answer: A) x+5

72. The area of a square field is 6050 m². The length of its diagonal is:

A) 110 m

B) 112 m

C) 120 m

D) 135 m

Answer: A) 110 m

73. The area of a sector is 1/12 of the area of the circle. The angle of the sector is:

A) 30°

B) 45°

C) 60°

D) 90°

Answer: A) 30°

74. If the side of a square is increased by 25%, then its area is increased by:

A) 25%

B) 50%

C) 56.25%

D) 62.5%

Answer: C) 56.25%

75. The area of a circular swimming pool is 616 m^2. What is the cost of fencing it at Rs. 25 per meter?

A) Rs. 2200

B) Rs. 2400

C) Rs. 2600

D) Rs. 2800

Answer: A) Rs. 2200

76. The area of a parallelogram is 338 m^2. If its altitude is twice the corresponding base, its base is:

A) 13 m

B) 14 m

C) 15 m

D) 16 m

Answer: A) 13 m

77. The area of a square is numerically equal to its perimeter. The side of the square is:

A) 1 unit

B) 2 units

C) 4 units

D) 8 units

Answer: C) 4 units

78. What is the area of the largest square that can be inscribed in a circle of radius 10 cm?

A) 100 cm^2

B) 200 cm^2

C) 300 cm^2

D) 400 cm^2

Answer: B) 200 cm^2

79. The sides of a triangle are 20 cm, 21 cm, and 29 cm. Its area is:

A) 210 cm^2

B) 230 cm^2

C) 250 cm^2

D) 270 cm^2

Answer: A) 210 cm^2

80. The area of a trapezium is 384 cm^2. If its parallel sides are in the ratio 3:5 and the perpendicular distance between them is 12 cm, the smaller of the parallel sides is:

A) 20 cm

B) 24 cm

C) 30 cm

D) 36 cm

Answer: B) 24 cm

81. The area of a rectangle is 252 cm^2. Its length and breadth are in the ratio of 9:7. Its perimeter is:

A) 64 cm

B) 68 cm

C) 72 cm

D) 76 cm

Answer: A) 64 cm

82. The area of a circle is 220 cm². The area of a square inscribed in this circle will be:

A) 140 cm²

B) 150 cm²

C) 160 cm²

D) 170 cm²

Answer: A) 140 cm²

83. What is the area of a regular pentagon with a side length of 4 cm?

A) 27.53 cm²

B) 28.53 cm²

C) 29.53 cm²

D) 30.53 cm²

Answer: A) 27.53 cm²

84. The perimeter of a rectangular field is 480 m and the ratio between the length and the breadth is 5:3. The area is:

A) 13500 m²

B) 14500 m²

C) 15500 m²

D) 16500 m²

Answer: A) 13500 m²

85. The area of a segment of a circle of radius 14 cm and central angle 90° is:

A) 56 cm²

B) 66 cm²

C) 76 cm²

D) 86 cm²

Answer: A) 56 cm²

86. A rectangular carpet has an area of 120 m² and a perimeter of 46 m. The length of its diagonal is:

A) 15 m

B) 17 m

C) 19 m

D) 21 m

Answer: B) 17 m

87. The area of an equilateral triangle circumscribing a circle of radius 'r' is:

A) $3\sqrt{3}\ r^2$

B) $2\sqrt{3}\ r^2$

C) $\sqrt{3}\ r^2$

D) $4\sqrt{3}\ r^2$

Answer: A) $3\sqrt{3}\ r^2$

88. The cost of fencing a circular field at the rate of Rs. 24 per meter is Rs. 5280. The field is to be ploughed at the rate of Rs. 0.50 per m². Find the cost of ploughing the field.

A) Rs. 1925

B) Rs. 1950

C) Rs. 1975

D) Rs. 2000

Answer: A) Rs. 1925

89. The area of a right-angled triangle is 30 cm² and the length of its hypotenuse is 13 cm. The length of the shorter leg is:

A) 4 cm

B) 5 cm

C) 6 cm

D) 7 cm

Answer: B) 5 cm

90. The circumference of a circle is 100 cm. The side of a square inscribed in the circle is:

A) $50\sqrt{2}$ cm

B) $100/\pi$ cm

C) $50\sqrt{2}/\pi$ cm

D) $100\sqrt{2}/\pi$ cm

Answer: C) $50\sqrt{2}/\pi$ cm

91. The area of a triangle is equal to the area of a square whose side is 60 m. The height of the triangle is 90 m. The base of the triangle is:

A) 60 m

B) 80 m

C) 100 m

D) 120 m

Answer: B) 80 m

92. The area of a circle with a radius of 10 cm is:

A) 100π cm²

B) 20π cm²

C) 10π cm²

D) 200π cm²

Answer: A) 100π cm²

93. The area of a rectangle is 96 m². If the length is 12 m, find the perimeter.

A) 40 m

B) 44 m

C) 48 m

D) 52 m

Answer: A) 40 m

94. The area of an ellipse with semi-major axis 'a' and semi-minor axis 'b' is:

A) πab

B) $\pi(a+b)$

C) $\pi(a^2+b^2)$

D) $\pi(a-b)$

Answer: A) πab

95. The diagonal of a square is $4\sqrt{2}$ cm. The area of another square whose area is double that of the first square is:

A) 32 cm^2

B) 64 cm^2

C) 128 cm^2

D) 16 cm^2

Answer: A) 32 cm^2

96. The area of a rectangular field is 144 m^2. If the length is increased by 5 m, the area increases by 40 m^2. Find the original length.

A) 16 m

B) 18 m

C) 20 m

D) 22 m

Answer: B) 18 m

97. The area of a square is 0.5 hectares. The length of its diagonal is:

A) 100 m

B) 50 m

C) 250 m

D) $50\sqrt{2}$ m

Answer: A) 100 m

98. The area of a triangle with a base of 12 cm and a height equal to half of its base is:

A) 36 cm^2

B) 72 cm^2

C) 18 cm^2

D) 144 cm^2

Answer: A) 36 cm^2

99. The area of a circle is numerically equal to twice its circumference. The diameter of the circle is:

A) 4 units

B) 6 units

C) 8 units

D) 12 units

Answer: C) 8 units

100. The area of a square courtyard is 400 m^2. What is the cost of cementing it at the rate of Rs. 5 per m^2?

A) Rs. 1000

B) Rs. 2000

C) Rs. 3000

D) Rs. 4000

Answer: B) Rs. 2000