

Area

1. If the area of a square is 64 cm^2 , its perimeter is:

- A) 16 cm
- B) 24 cm
- C) 32 cm
- D) 48 cm

Answer: C) 32 cm

2. The area of a rectangle is 108 cm^2 and its length is 12 cm. Its breadth is:

- A) 9 cm
- B) 10 cm
- C) 11 cm
- D) 8 cm

Answer: A) 9 cm

3. What is the area of a triangle with a base of 15 cm and a corresponding height of 8 cm?

- A) 120 cm^2
- B) 60 cm^2
- C) 30 cm^2
- D) 23 cm^2

Answer: B) 60 cm^2

4. The area of a circle is 314 cm^2 . What is its radius? (Use $\pi = 3.14$)

- A) 10 cm
- B) 12 cm
- C) 15 cm
- D) 20 cm

Answer: A) 10 cm

5. The area of a parallelogram is 98 cm^2 and its base is 14 cm. The height is:

- A) 7 cm
- B) 8 cm
- C) 9 cm
- D) 10 cm

Answer: A) 7 cm

6. The area of a right-angled triangle is 54 cm^2 . If one of its legs is 12 cm, the other leg is:

- A) 9 cm
- B) 10 cm
- C) 11 cm
- D) 12 cm

Answer: A) 9 cm

7. The area of a square is 144 cm^2 . The length of its side is:

- A) 10 cm
- B) 12 cm
- C) 14 cm
- D) 16 cm

Answer: B) 12 cm

8. The area of a trapezium is 80 cm^2 . The sum of its parallel sides is 20 cm. The distance between the parallel sides is:

- A) 4 cm
- B) 8 cm
- C) 10 cm
- D) 12 cm

Answer: B) 8 cm

9. The area of a circle is 154 cm^2 . Its circumference is:

- A) 22 cm

B) 44 cm

C) 66 cm

D) 88 cm

Answer: B) 44 cm

10. A rectangular room is 10 m long and 8 m wide. What is the area of the carpet needed to cover the floor?

A) 80 m²

B) 40 m²

C) 18 m²

D) 36 m²

Answer: A) 80 m²

11. What is the area of an equilateral triangle with a side of 10 cm?

A) $25\sqrt{3}$ cm²

B) $50\sqrt{3}$ cm²

C) $100\sqrt{3}$ cm²

D) $10\sqrt{3}$ cm²

Answer: A) $25\sqrt{3}$ cm²

12. The area of a rhombus is 96 cm². If one of its diagonals is 16 cm, the other diagonal is:

A) 6 cm

B) 8 cm

C) 10 cm

D) 12 cm

Answer: D) 12 cm

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

A) 2 units

B) 4 units

C) 6 units

D) 8 units

Answer: B) 4 units

14. The area of a circle that can be inscribed in a square of side 10 cm is:

A) $25\pi \text{ cm}^2$

B) $50\pi \text{ cm}^2$

C) $100\pi \text{ cm}^2$

D) $20\pi \text{ cm}^2$

Answer: A) $25\pi \text{ cm}^2$

15. What is the area of the largest triangle that can be inscribed in a square of side 8 cm?

A) 16 cm^2

B) 32 cm^2

C) 64 cm^2

D) 8 cm^2

Answer: B) 32 cm^2

16. The base of a triangle is 15 cm and its height is 12 cm. The area of another triangle, whose area is double that of the first and whose base is 20 cm, is:

A) 90 cm^2

B) 180 cm^2

C) 120 cm^2

D) 150 cm^2

Answer: B) 180 cm^2

17. The ratio of the areas of two circles is 4:9. The ratio of their radii is:

A) 2:3

B) 3:2

C) 4:9

D) 9:4

Answer: A) 2:3

18. What is the area of a semicircle with a diameter of 20 cm?

- A) $50\pi \text{ cm}^2$
- B) $100\pi \text{ cm}^2$
- C) $200\pi \text{ cm}^2$
- D) $25\pi \text{ cm}^2$

Answer: A) $50\pi \text{ cm}^2$

19. A rectangular plot measuring 90 m by 50 m is to be enclosed by a wire fence. If the poles of the fence are kept 5 m apart, how many poles will be needed?

- A) 55
- B) 56
- C) 57
- D) 58

Answer: B) 56

20. The area of a rectangle is equal to the area of a square of side 12 cm. If the length of the rectangle is 16 cm, its breadth is:

- A) 8 cm
- B) 9 cm
- C) 10 cm
- D) 11 cm

Answer: B) 9 cm

21. What is the area of a regular hexagon inscribed in a circle of radius 10 cm?

- A) $150\sqrt{3} \text{ cm}^2$
- B) $200\sqrt{3} \text{ cm}^2$
- C) $250\sqrt{3} \text{ cm}^2$
- D) $300\sqrt{3} \text{ cm}^2$

Answer: A) $150\sqrt{3} \text{ cm}^2$

22. A room is 12 m long, 8 m wide and 6 m high. The area of the four walls is:

- A) 120 m^2
- B) 240 m^2
- C) 360 m^2
- D) 480 m^2

Answer: B) 240 m^2

23. The area of a square is 1 hectare. The length of its side is:

- A) 10 m
- B) 100 m
- C) 1000 m
- D) 1 m

Answer: B) 100 m

24. What is the area of a circle whose radius is the diagonal of a square whose area is 4 cm^2 ?

- A) $8\pi \text{ cm}^2$
- B) $16\pi \text{ cm}^2$
- C) $32\pi \text{ cm}^2$
- D) $4\pi \text{ cm}^2$

Answer: A) $8\pi \text{ cm}^2$

25. The length of a rectangle is increased by 20% and its breadth is decreased by 20%. The percentage change in its area is:

- A) 4% increase
- B) 4% decrease
- C) No change
- D) 10% decrease

Answer: B) 4% decrease

26. The area of a sector of a circle of radius 5 cm, formed by an arc of length 3.5 cm, is:

- A) 8.75 cm^2
- B) 9.75 cm^2

C) 10.75 cm^2

D) 11.75 cm^2

Answer: A) 8.75 cm^2

27. The sides of a triangle are 3 cm, 4 cm and 5 cm. Its area is:

A) 6 cm^2

B) 7.5 cm^2

C) 9 cm^2

D) 12 cm^2

Answer: A) 6 cm^2

28. The area of a circular path of uniform width ' w ' surrounding a circular region of radius ' r ' is:

A) $\pi w(2r+w)$

B) $\pi w(r+w)$

C) $\pi w(2r-w)$

D) $\pi w(r-w)$

Answer: A) $\pi w(2r+w)$

29. What is the area of an isosceles triangle with two equal sides of 10 cm and the angle between them is 45° ?

A) $25\sqrt{2} \text{ cm}^2$

B) $50\sqrt{2} \text{ cm}^2$

C) 25 cm^2

D) 50 cm^2

Answer: A) $25\sqrt{2} \text{ cm}^2$

30. The area of a rectangle is 240 cm^2 . If its diagonal is 26 cm, its perimeter is:

A) 60 cm

B) 68 cm

C) 72 cm

D) 76 cm

Answer: B) 68 cm

31. If the side of a square is doubled, its area becomes:

- A) Double
- B) Three times
- C) Four times
- D) Half

Answer: C) Four times

32. What is the area of a quadrant of a circle with a radius of 10 cm?

- A) $25\pi \text{ cm}^2$
- B) $50\pi \text{ cm}^2$
- C) $100\pi \text{ cm}^2$
- D) $12.5\pi \text{ cm}^2$

Answer: A) $25\pi \text{ cm}^2$

33. The diagonals of a rhombus are in the ratio 3:4. If its area is 96 cm^2 , the length of the longer diagonal is:

- A) 12 cm
- B) 16 cm
- C) 20 cm
- D) 24 cm

Answer: B) 16 cm

34. A running track is in the form of a ring whose inner circumference is 352 m, and the outer circumference is 396 m. The width of the track is:

- A) 4 m
- B) 7 m
- C) 8 m
- D) 10 m

Answer: B) 7 m

35. The area of a square is equal to the area of a circle. The ratio of the side of the square to the radius of the circle is:

- A) $\sqrt{\pi} : 1$
- B) $1 : \sqrt{\pi}$
- C) $\pi : 1$
- D) $1 : \pi$

Answer: A) $\sqrt{\pi} : 1$

36. The area of a triangle with sides 13 cm, 14 cm and 15 cm is:

- A) 84 cm^2
- B) 90 cm^2
- C) 96 cm^2
- D) 102 cm^2

Answer: A) 84 cm^2

37. The perimeter of a rectangle is 100 cm. If its length is 30 cm, its area is:

- A) 600 cm^2
- B) 700 cm^2
- C) 800 cm^2
- D) 900 cm^2

Answer: A) 600 cm^2

38. The area of a square inscribed in a circle of circumference $20\pi \text{ cm}$ is:

- A) 100 cm^2
- B) 200 cm^2
- C) 300 cm^2
- D) 400 cm^2

Answer: B) 200 cm^2

39. The parallel sides of a trapezium are 20 cm and 10 cm. Its non-parallel sides are both equal, each being 13 cm. The area of the trapezium is:

- A) 180 cm^2

B) 200 cm^2

C) 220 cm^2

D) 240 cm^2

Answer: A) 180 cm^2

40. What is the area of a ring-shaped region between two concentric circles of radii 20 cm and 15 cm?

A) $125\pi \text{ cm}^2$

B) $175\pi \text{ cm}^2$

C) $225\pi \text{ cm}^2$

D) $275\pi \text{ cm}^2$

Answer: B) $175\pi \text{ cm}^2$

41. The length of a rectangular plot is 20 m more than its breadth. If the cost of fencing the plot at Rs. 26.50 per meter is Rs. 5300, what is the area of the plot in square meters?

A) 2400

B) 2500

C) 2600

D) 2700

Answer: A) 2400

42. The area of the four walls of a hall is 120 m^2 . If the length is twice the breadth and the height is 4 m, the area of the floor is:

A) 50 m^2

B) 60 m^2

C) 70 m^2

D) 80 m^2

Answer: A) 50 m^2

43. The area of a circle whose radius is 6 cm is trisected by two concentric circles. The radius of the smallest circle is:

A) $2\sqrt{3} \text{ cm}$

B) $3\sqrt{2}$ cm

C) 4 cm

D) 3 cm

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

44. A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and the rest of the park has been used as a lawn. If the area of the lawn is 2109 sq. m, then what is the width of the road?

A) 2.91 m

B) 3 m

C) 5.82 m

D) None of these

Answer: B) 3 m

45. The area of a parallelogram is 120 cm^2 . If the altitude is 10 cm, the length of the base is:

A) 10 cm

B) 12 cm

C) 15 cm

D) 20 cm

Answer: B) 12 cm

46. What is the area of the shaded region in a square of side 14 cm, with four quarter circles at the corners?

A) 42 cm^2

B) 44 cm^2

C) 46 cm^2

D) 48 cm^2

Answer: A) 42 cm^2

47. The sides of a triangle are in the ratio $1/2 : 1/3 : 1/4$. If the perimeter is 52 cm, the length of the smallest side is:

A) 9 cm

B) 10 cm

C) 11 cm

D) 12 cm

Answer: D) 12 cm

48. A circular garden has a circumference of 440 m. There is a 7 m wide border inside the garden along its boundary. The area of the border is:

A) 2918 m²

B) 2928 m²

C) 2938 m²

D) 2948 m²

Answer: C) 2938 m²

49. What is the area of a triangle with vertices at (0,0), (6,0) and (0,8)?

A) 12 sq. units

B) 24 sq. units

C) 36 sq. units

D) 48 sq. units

Answer: B) 24 sq. units

50. The area of a rectangle is 300 cm². If the length is 25 cm, the perimeter is:

A) 74 cm

B) 76 cm

C) 78 cm

D) 80 cm

Answer: A) 74 cm

51. The area of an equilateral triangle with a perimeter of 30 cm is:

A) $25\sqrt{3}$ cm²

B) $50\sqrt{3}$ cm²

C) $75\sqrt{3}$ cm²

D) $100\sqrt{3} \text{ cm}^2$

Answer: A) $25\sqrt{3} \text{ cm}^2$

52. The area of the largest circle that can be inscribed in a rectangle of sides 18 cm by 14 cm is:

A) $49\pi \text{ cm}^2$

B) $64\pi \text{ cm}^2$

C) $81\pi \text{ cm}^2$

D) $100\pi \text{ cm}^2$

Answer: A) $49\pi \text{ cm}^2$

53. If the length of a rectangle is increased by 50% and the breadth is decreased by 50%, the change in area is:

A) 0%

B) 25% decrease

C) 25% increase

D) 50% decrease

Answer: B) 25% decrease

54. The area of a circle is 2464 cm^2 . The diameter is:

A) 28 cm

B) 56 cm

C) 42 cm

D) 49 cm

Answer: B) 56 cm

55. The perimeter of a rhombus is 40 cm. If the length of one of its diagonals be 12 cm, the length of the other diagonal is:

A) 14 cm

B) 16 cm

C) 18 cm

D) 20 cm

Answer: B) 16 cm

56. What is the area of a regular dodecagon (12 sides) with a side of 4 cm?

- A) $12(2+\sqrt{3}) \text{ cm}^2$
- B) $24(2+\sqrt{3}) \text{ cm}^2$
- C) $36(2+\sqrt{3}) \text{ cm}^2$
- D) $48(2+\sqrt{3}) \text{ cm}^2$

Answer: D) $48(2+\sqrt{3}) \text{ cm}^2$

57. A rectangular field is to be fenced on three sides leaving a side of 20 feet uncovered. If the area of the field is 680 sq. feet, how many feet of fencing will be required?

- A) 34
- B) 40
- C) 68
- D) 88

Answer: D) 88

58. The area of a circle is equal to the sum of the areas of two circles of radii 24 cm and 7 cm. The radius of the new circle is:

- A) 25 cm
- B) 31 cm
- C) 35 cm
- D) 40 cm

Answer: A) 25 cm

59. The area of an isosceles right-angled triangle with a perimeter of $(4+2\sqrt{2}) \text{ cm}$ is:

- A) 2 cm^2
- B) 4 cm^2
- C) 6 cm^2
- D) 8 cm^2

Answer: A) 2 cm^2

60. A wire can be bent in the form of a circle of radius 56 cm. If it is bent in the form of a square, then its area will be:

- A) 7744 cm^2
- B) 7844 cm^2
- C) 7944 cm^2
- D) 8044 cm^2

Answer: A) 7744 cm^2

61. The area of a square is to the area of the circle inscribed in it as:

- A) $4 : \pi$
- B) $\pi : 4$
- C) $2 : \pi$
- D) $\pi : 2$

Answer: A) $4 : \pi$

62. The area of a square field is 4225 m^2 . A man cycles along its boundary at 18 km/hr . In how much time will he return to the starting point?

- A) 52 sec
- B) 54 sec
- C) 56 sec
- D) 58 sec

Answer: A) 52 sec

63. The area of a triangle with vertices $(2,1)$, $(4,5)$ and $(6,2)$ is:

- A) 5 sq. units
- B) 6 sq. units
- C) 7 sq. units
- D) 8 sq. units

Answer: B) 6 sq. units

64. If the area of a circle is A , radius is r and circumference is C , then:

- A) $rC = 2A$

B) $C/A = r/2$

C) $AC = r^2/4$

D) $A/r = C$

Answer: A) $rC = 2A$

65. A horse is tied to a peg at one corner of a square-shaped grass field of side 15 m by means of a 5 m long rope. The area of that part of the field in which the horse can graze is:

A) 19.625 m^2

B) 19.825 m^2

C) 19.425 m^2

D) 19.225 m^2

Answer: A) 19.625 m^2

66. The area of a rectangle is 216 cm^2 . If the length is 6 cm more than the breadth, the length is:

A) 12 cm

B) 18 cm

C) 15 cm

D) 20 cm

Answer: B) 18 cm

67. The area of a circle that can be inscribed in a right-angled triangle with sides 6 cm, 8 cm, and 10 cm is:

A) $\pi \text{ cm}^2$

B) $2\pi \text{ cm}^2$

C) $3\pi \text{ cm}^2$

D) $4\pi \text{ cm}^2$

Answer: D) $4\pi \text{ cm}^2$

68. A rectangular garden of length 12 m is surrounded by a verandah of width 2 m. The area of the verandah is 112 m^2 . The breadth of the garden is:

A) 10 m

B) 12 m

C) 14 m

D) 16 m

Answer: A) 10 m

69. What is the area of a triangle with a perimeter of 42 cm, one side 18 cm and the difference between the other two sides is 6 cm?

A) $54\sqrt{2}$ cm²

B) $60\sqrt{2}$ cm²

C) $66\sqrt{2}$ cm²

D) $72\sqrt{2}$ cm²

Answer: A) $54\sqrt{2}$ cm²

70. The areas of two similar triangles are in the ratio 9:16. The ratio of their corresponding sides is:

A) 3:4

B) 4:3

C) 9:16

D) 16:9

Answer: A) 3:4

71. The area of a rectangle is $x^2 - y^2$. One of its sides is $(x-y)$. The other side is:

A) $x+y$

B) $x-y$

C) x^2+y^2

D) xy

Answer: A) $x+y$

72. The diagonal of a square is 12 cm. Its area is:

A) 72 cm²

B) 144 cm²

C) 36 cm²

D) 48 cm²

Answer: A) 72 cm^2

73. The area of a sector of a circle of radius 16 cm, cut off by an arc which is 18.5 cm long, is:

- A) 148 cm^2
- B) 158 cm^2
- C) 168 cm^2
- D) 178 cm^2

Answer: A) 148 cm^2

74. If the side of a square is decreased by 10%, its area is decreased by:

- A) 10%
- B) 19%
- C) 20%
- D) 21%

Answer: B) 19%

75. The cost of fencing a circular plot at Rs. 15 per meter is Rs. 3300. What will be the cost of flooring the plot at a rate of Rs. 100 per square meter?

- A) Rs. 3,85,000
- B) Rs. 3,50,000
- C) Rs. 2,20,000
- D) Rs. 3,30,000

Answer: A) Rs. 3,85,000

76. The area of a parallelogram is 192 cm^2 and its height is 3 times the base. The base is:

- A) 6 cm
- B) 8 cm
- C) 10 cm
- D) 12 cm

Answer: B) 8 cm

77. The area of a square is $16a^2$. Its perimeter is:

- A) $4a$
- B) $8a$
- C) $16a$
- D) $32a$

Answer: C) $16a$

78. What is the area of the largest square that can be cut from a circular piece of cardboard of radius 12 cm?

- A) 144 cm^2
- B) 288 cm^2
- C) 216 cm^2
- D) 192 cm^2

Answer: B) 288 cm^2

79. The sides of a triangle are 7 cm, 24 cm, and 25 cm. Its area is:

- A) 84 cm^2
- B) 90 cm^2
- C) 96 cm^2
- D) 100 cm^2

Answer: A) 84 cm^2

80. The area of a trapezium is 180 cm^2 . Its parallel sides are 10 cm and 20 cm. The distance between them is:

- A) 9 cm
- B) 12 cm
- C) 15 cm
- D) 18 cm

Answer: B) 12 cm

81. The length and breadth of a rectangle are in the ratio 3:2. If its area is 216 cm^2 , its perimeter is:

- A) 60 cm

B) 64 cm

C) 68 cm

D) 72 cm

Answer: A) 60 cm

82. The area of a square that can be inscribed in a circle of radius 14 cm is:

A) 196 cm²

B) 392 cm²

C) 294 cm²

D) 441 cm²

Answer: B) 392 cm²

83. What is the area of a regular pentagon with a perimeter of 50 cm?

A) 172.05 cm²

B) 175.05 cm²

C) 180.05 cm²

D) 185.05 cm²

Answer: A) 172.05 cm²

84. The perimeter of a rectangle is 82 m and its area is 400 m². The breadth of the rectangle is:

A) 16 m

B) 20 m

C) 25 m

D) 30 m

Answer: A) 16 m

85. The area of a segment of a circle of radius 21 cm, if the angle of the sector is 120°, is:

A) $(462 - 441\sqrt{3}/4)$ cm²

B) $(462 + 441\sqrt{3}/4)$ cm²

C) $(231 - 441\sqrt{3}/4)$ cm²

D) $(231 + 441\sqrt{3}/4)$ cm²

Answer: A) $(462 - 441\sqrt{3}/4)$ cm²

86. A rectangular lawn has an area of 180 m². If its perimeter is 54 m, its length is:

- A) 12 m
- B) 15 m
- C) 18 m
- D) 20 m

Answer: B) 15 m

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

- A) $(3\sqrt{3}/4)r^2$
- B) $(3\sqrt{3}/2)r^2$
- C) $(\sqrt{3}/4)r^2$
- D) $(\sqrt{3}/2)r^2$

Answer: A) $(3\sqrt{3}/4)r^2$

88. The cost of fencing a rectangular field is Rs. 720 at Rs. 12 per meter. If the length of the field is 18 m, its area is:

- A) 216 m²
- B) 226 m²
- C) 236 m²
- D) 246 m²

Answer: A) 216 m²

89. The area of a right-angled triangle is 6 cm² and its base is 4 cm. The length of the hypotenuse is:

- A) 3 cm
- B) 4 cm
- C) 5 cm
- D) 6 cm

Answer: C) 5 cm

90. The circumference of a circle is 88 cm. The area of the square inscribed in it is:

- A) 392 cm^2
- B) 492 cm^2
- C) 592 cm^2
- D) 692 cm^2

Answer: A) 392 cm^2

91. The area of a triangle is half the area of a square. If the side of the square is 10 cm and the base of the triangle is 10 cm, its height is:

- A) 5 cm
- B) 10 cm
- C) 15 cm
- D) 20 cm

Answer: B) 10 cm

92. The area of a circle with a diameter of 14 cm is:

- A) 154 cm^2
- B) 144 cm^2
- C) 134 cm^2
- D) 124 cm^2

Answer: A) 154 cm^2

93. The area of a rectangle is 150 m^2 . Its perimeter is 50 m. Find its dimensions.

- A) 10m, 15m
- B) 12m, 12.5m
- C) 5m, 30m
- D) 20m, 7.5m

Answer: A) 10m, 15m

94. The area of an ellipse with a major axis of 20 cm and a minor axis of 10 cm is:

- A) $50\pi \text{ cm}^2$

B) $100\pi \text{ cm}^2$

C) $200\pi \text{ cm}^2$

D) $25\pi \text{ cm}^2$

Answer: A) $50\pi \text{ cm}^2$

95. The area of a square is 49 cm^2 . The area of another square whose side is the diagonal of the first square is:

A) 98 cm^2

B) 147 cm^2

C) 196 cm^2

D) 49 cm^2

Answer: A) 98 cm^2

96. The area of a rectangular garden is 600 m^2 . If the length is 30 m , the cost of fencing it at Rs. 20 per meter is:

A) Rs. 2000

B) Rs. 2200

C) Rs. 2400

D) Rs. 2600

Answer: A) Rs. 2000

97. The area of a square field is $101 \frac{1}{400} \text{ m}^2$. The length of one of its sides is:

A) $10 \frac{1}{20} \text{ m}$

B) $10 \frac{3}{20} \text{ m}$

C) $10 \frac{7}{20} \text{ m}$

D) $10 \frac{9}{20} \text{ m}$

Answer: A) $10 \frac{1}{20} \text{ m}$

98. The area of a triangle with a height of 10 cm and a base of 12 cm is:

A) 60 cm^2

B) 120 cm^2

C) 30 cm^2

D) 22 cm^2

Answer: A) 60 cm^2

99. The area of a circle is $25\pi \text{ cm}^2$. Its circumference is:

A) $5\pi \text{ cm}$

B) $10\pi \text{ cm}$

C) $15\pi \text{ cm}$

D) $20\pi \text{ cm}$

Answer: B) $10\pi \text{ cm}$

100. The area of a square plot is 1600 m^2 . The cost of leveling it at Rs. 1.50 per square meter is:

A) Rs. 1800

B) Rs. 2400

C) Rs. 3000

D) Rs. 3600

Answer: B) Rs. 2400