EXERCISE

OBJECTIVE TYPE

Q.1 The perimeter of regular pentagon of side 8 cm is :

(A) 32 cm (B) 40 cm (C) 48 cm (D) 56 cm

Q.2 Find the area of square having perimeter 20 cm.

(A) 5 cm^2 (B) 10 cm^2 (C) 20 cm^2 (D) 25 cm^2

Q.3 A regular polygon having n side perimeter m unit, then length of each side of polygon is :

(A) mn unit (B) $\frac{m}{n}$ – l unit (C) $\frac{n}{m}$ unit (D) can't be determine

Q.4 Rectangle having length l unit and perimeter p unit then its breadth is :

(A) $\frac{p}{l}$ unit (B) $\frac{p}{2}$ unit (C) $\frac{p}{2}$ + l unit (D) $\frac{l}{p}$ unit

Q.5 A rectangular floor having dimension 40m × 30m is paved with square tiles of side 5 m, find the number of tiles required.

(A) 24 (B) 48 (C) 96 (D) 120

Q.6 If the area and length of a rectangular plot are 440 m^2 and 22 m respectively, then find its breadth ?

(A) 20 m (B) 10 m (C) 30 m (D) 40 m

Q.7 A lawn is in the shape of a rectangle of length 80 m and width 40 m. Out side the lawn there is footpath of uniform width 3 cm. Find the area of the path.

(A) 756 m^2 (B) 706 m^2 (C) 736 m^2 (D) 726 m^2

Q.8 The length and width of a rectangular field are 500 m and 400 m respectively; within it two roads of 10 metres width run parallel to both sides. Find the area covered by both the roads.

(A) 8800 m^2 (B) 8900 m^2 (C) 8860 m^2 (D) 8830 m^2

Q.9 The cost of levelling a playground at Rs.5 per square meter is Rs. 7000. It is 20 m wide. Find the cost of fencing it at Rs.2 per meter.

(A) Rs. 330 (B) Rs. 340 (C) Rs. 350 (D) Rs. 360

Q.10 A street lane is to be paved with bricks. The length of the lane is 200 m and its breadth 15m. Find the number of bricks required to pave the lane if each brick measures 20 cm by 10 cm

(A) 15 (B) 150 (C) 1500 (D) 150000

Q.11 The perimeters of two square are 748 cm and 336 cm. Find the perimeter of a square whose area is equal to the sum of the areas of these two squares :

(A) 810 cm (B) 815 cm (C) 820 cm (D) 825 cm

Q.12 The dimensions of a hall are 40 m, 25 m and 20 m. If each person requires 200 cubic metres. Then the number of persons who can be accommodated in the hall are :

(A) 120 (B) 150 (C) 140 (D) 100

Q.13 How many cubes of side 15 cm can be fitted into a box which measure 1.5 m × 90 cm × 75 cm ?

(A) 120 (B) 300 (C) 140 (D) 100

Q.14 The edge of cube is 20 cm. How many small cubes of 5 cm edge can be formed from this cube ?

(A) 4 (B) 32 (C) 64 (D) 100

Q.15 Length and breadth of a rectangle is x and y, the its perimeter is :

(A) xy (B) x + y (C) 2(x + y) (D) 2xy

Q.16 Perimeter of an equilateral triangle of side x is :

(A) x^3 (B) x^2 (C) 3x (D) 2x

Q.17 The length and breadth of rectangle are 10 cm and 6 cm respecitively. Its area will be :

(A) 36 cm^2 (B) 60 cm^2 (C) 100 cm^2 (D) 16 cm^2

Q.18 Area of square of side 5 cm is :

(A) 25 sq cm (B) 10 sq cm (C) 20 sq cm (D) none of these

Q.19 The cost of flooring a room at Rs. 25 per m^2 is Rs.625.

The area of the floor is :

(A) 25 m^2 (B) 15 cm^2 (C) 50 cm^2 (D) 25 cm^2

Q.20 The length of a rectangle having area 340 cm^2 and breadth 20 cm is :

(A) 170 cm (B) 15 cm (C) 17 cm (D) 20 cm

Q.21 To find the distance around the figure we find its :

(A) area (B) perimeter (C) both (D) none of these

Q.22 The side of regular pentagon having perimeter 5x units is :

(A) 25 units (B) x units (C) 5 units (D) none of these

Q.23 If the side of the square field is doubled, then its area will be :

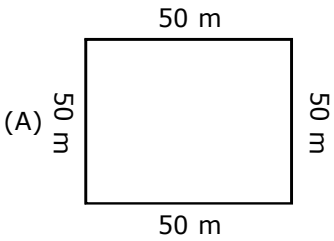
(A) four times (B) doubled (C) halved (D) tripled

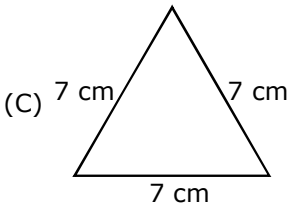
Q.24 To calculate length of rectangle we divide its area by its :

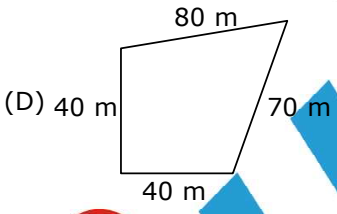
(A) breadth (B) length (C) perimeter (D) 2

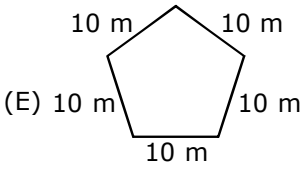
SUBJECTIVE TYPE

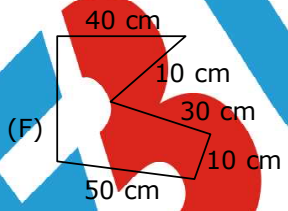
Q.1 Calcualte the perimeter of the following figures.

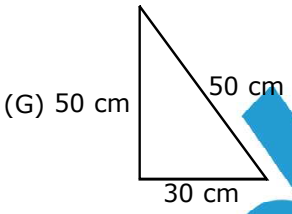


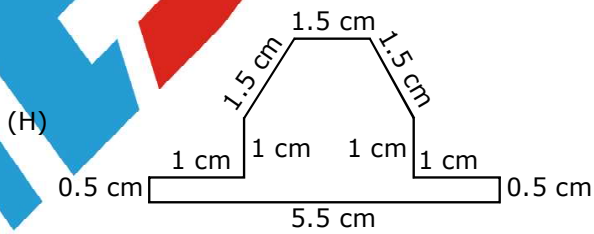








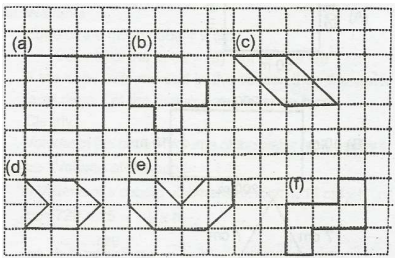




Q.2 A square sheet of paper has a perimeter of 40 cm. What is the length of its side ?

Q.3 Anand's garden is 70 m long and 50 m wide and is in the from of a rectangle. If he uses three of barbed wire to fence the garden, what is the total length of the wire used ?

Q.4 Find the area of each of the figure drawn on squared paper in given figure. Area of each square is 1 cm^2.



Q.5 The length of a rectangular field is 300 m and its breadth is $\frac{2}{3}$ its length. If a road of width 10 m is built along the inner wall of the field, what is the area of the road ?

Q.6 The area of a square picture is 441 sq. cm. What is the length of its side ?

Q.7 A marble tile measure 10 cm × 12 cm. How many tiles will be required to cover a wall is size 3 m × 4m ?

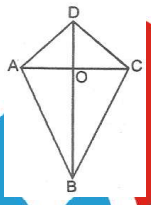
Q.8 How many envelope of size 15 cm × 20 cm can be made out of a paper of size 4 m × 6 m ?

Q.9 Five square flower beds each of side 1.2 m are dug on a piece of land 4.8 m long and 4.2 wide. What is the area of the remaining part of the land ?

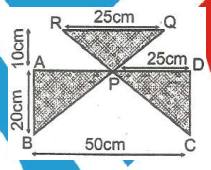
Q.10 The area of rectangular field is 594 square metre. Its breadth is 22 m. Find its perimeter.

Q.11 The area of a triangle, whose base and the corresponding altitude are 15 cm and 7 cm, is equal to a right triangle whose one of the sides containing the right angle is 10.5 cm. Find the other side of this triangle.

Q.12 Calculate the area of the quadrilateral ABCD as shown in figure, given that BD = 42 cm, AC = 28 cm, OD = 12 cm and AC $\perp$ BD.



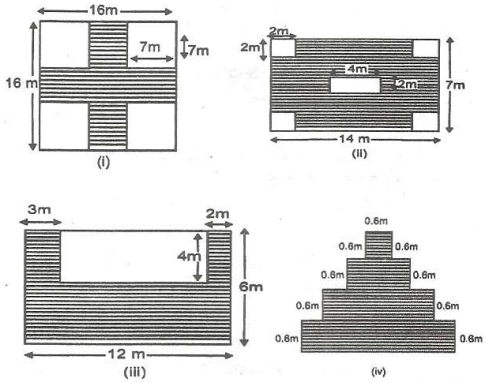
Q.13 Find the area of the shaded figure, where $\angle BAP = 90^o$ & $\angle CDP = 90^o$.



Q.14 An open box is made of a thin cardboard (negligible thickness of cardboard). It is 8 cm long, 6 cm wide and 5 cm high. It is without a lid. Find the total surface area of the box.

Q.15 Three cubes, each having an edge 4 cm, are joined together. Find the surface area of the cuboid thus formed. Is this surface area equal to the sum of the surface areas of the three separate cubes ?

Q.16 Calculate the area of the shaded region in each of the following figures.



ANSWER KEY

OBJECTIVE :

1.	B	**2.**	D	**3.**	B	**4.**	B
5.	B	**6.**	A	**7.**	A	**8.**	B
9.	D	**10.**	D	**11.**	C	**12.**	D
13.	B	**14.**	C	**15.**	C	**16.**	C
17.	B	**18.**	A	**19.**	A	**20.**	C
21.	B	**22.**	B	**23.**	A	**24.**	A

SUBJECTIVE :

1. (a) 220m (b) 420m (c) 21cm (d) 230cm
(e) 50cm (f) 160cm (g) 130cm

2. 10cm

3. 720m

4. (a) $9cm^2$ (b) $5cm^2$ (c) $4cm^2$ (d) $4cm^2$
(e) $6cm^2$ (f) $5cm^2$

5. $9600m^2$

6. 21cm

7. No. of tiles = 1000

8. No. of envelopes = 800

9. 12.96 sq m

10. 98m

11. 10cm

12. $588cm^2$

13. $625cm^2$

14. $188cm^2$

15. $224cm^2$ No, the surface area of cuboid and 3 cube are not equal

16. (i) $60m^2$ (ii) $74cm^2$ (iii) $44m^2$ (iv) $5.76m^2$

EXERCISE-2

1. What is the length of the greatest rod that can be placed in a room whose length is 10 m, breadth 8 m and height 6 m. Given that $\sqrt{2}$ = 1.42 .

(A) 13.2 (B) 14.2 (C) 15.2 (C) 16.2

2. Two cubes, each of edge 12 cm are joined end to end. Find the surface area of resulting cuboid.

(A) 1450 cm^2. (B) 1440 cm^2 (C) 1420 cm^2 (C) 1410 cm^2

3. Three cubes whose edges are 3 cm, 4 cm and 5 cm respectively are melted to fo a single cube. Find the surface area of the new cube.

(A) 210 cm^2 (A) 213 cm^2 (C) 224 cm^2 (D) 216 cm^2

4. Three cubes of metal whose edges are in the ratio 3 : 4 : 5 are melted down into a single cube whose diagonal is $12\sqrt{3}$ cm. Find the edge of smallest of the three given cubes.

(A) 6 cm (B) 7 cm (C) 8 cm (D) 9 cm

5. If the radius of the base of the right circular cylinder is reduced by 50%, keeping the same height, what is the ratio of the volume of the reduced cylinder to that of the original.

(A) 1 : 9 (B) 1 : 8 (C) 1 : 4 (D) 1 : 2

6. The radii of the two cylinders are in the ratio 2 : 3 and their heights are in the ratio 5 : 3. What is the ratio of their volumes?

(A) 20 : 27 (B) 18 : 27 (C) 15 : 21 (D) 11 : 15

7. The volume of the metallic cylindrical pipe is 748 cm^3. Its length is 14 cm and its external radius is 9 cm. Find its thickness.

(A) 4 (B) 3 (C) 2 (D) 1

8. Find the number of coins 1.5 cm in diameter and 0.2 cm thick to be melted to form a right circular cylinder whose height is 8 cm and diameter 6 cm.

(A) 620 (B) 640 (C) 660 (D) 680

9. The vertical height of a conical tent is 42 dm and its diameter of the base is 54 dm. How many persons can it accommodate if each person is to be allowed 2916 dm^3 of space? (π = 22/7)

(A) 11 (B) 10 (C) 9 (D) 8

10. A piece of metal in the form of a cone of radius 3 cm and height 7 cm melted and cast into a cube. Find the side of cube (nearest to a whole number)

(A) 5 cm (B) 4' cm (C) 3 cm (D) 2 cm

11. A right circular cylinder and a right circular cone have equal bases and equal heights. If their curved surfaces are in the ratio 8 : 5, what is the ratio of their base to their heights?

(A) 3 : 4 (B) 5 : 4 (C) 6 : 7 (D) 9 : 8

12. Three solid spheres of gold whose radii are 1 cm, 6 cm and 8 cm respectively are melted into a single solid sphere. Find the radius of the sphere.

(A) 6 cm (B) 7 cm (C) 8 cm (D) 9 cm

13. It needs 50 ml paint for painting a picture 50 cm × 25 cm. How much paint is needed to paint a similar picture 100 cm × 50 cm?

(A) 100 ml (B) 400 ml (C) 750 ml (D) 200 ml

14. The sides of a rectangular plot are in the ratio of 4 : 3 and its area is 1452 m^2. Find the cost of fencing it at Rs 2.50 P per metre.

(A) Rs. 480 (B) Rs. 385 (C) Rs.375 (D) Rs. 365

15. How many metres of carpet 50 cm wide will be required to cover the floor of a room 30 m × 20 m?

(A) 1000 (B) 600 (C) 2400 (D) 1200

16. A room is 15 metres long, 4 metres broad and 3 metres high. Find the cost of white washing its four walls

at 50 P. per m^2.

(A) Rs. 60 (B) Rs. 57 (C) Rs.55 (D) Rs. 52

17. The area of four walls of a room is 120 m^2 and its length is twice the breadth, the height being 4 metres. Find the area of the floor.

(A) 50 m^2 (B) 60 m^2 (C) 75 m^2 (D) 100 m^2

18. Find the cost of fencing a circular field at the rate of 50 P. per metre if its area is 13860 m^2. (π = 22/7)

(A) Rs. 660 (B) Rs.540 (C) Rs. 700 (D) Rs. 800

19. The inside circumference of a circular field is 1188 m. A road 7 m wide is constructed on the outside. Find its area.

(A) 8070 m^2 (B) 8270 m^2 (C) 8370 m^2 (D) 8470 m^2

20. The area of two circular fields is in the ratio 16 : 49. If the radius of the latter is 14 m, what is the radius of the former?

(A) 32 m (B) 18 m (C) 8 m (D) 4 m

21. The radii of the two circular field is in the ratio 3 : 5. The area of the first field is what percent less than the area of the second?

(A) 50% (B) 60% (C) 40% (D) 64%

22. What is the radius of a circular field whose area is equal to the sum of the areas of the three circular fields with radii 4 m, 4.5 m and 6 m respectively?

(A) 9 m (B) 10.5 m (C) 10 m (D) 8.5 m

23. If all the sides of a triangle be increased by 200 percent what is the corresponding increase in its area?

(A) 300% (B) 400% (C) 600% (D) 800%

24. How much paint is required for painting the outer surface of the water tank 2 m × 4 m × 3 m if it needs $\frac{1}{6}$ of a litre for every m^2?

(A) 16 litres (B) 15 litres (C) 12 litres (D) 10 litres

25. The edge of three iron cubes are 6 cm, 8 cm, 10 cm respectively. A new cube was made by melting them. Find the edge of the new cube.

(A) 8 (B) 12 (C) 14 (D) 10

26. A closed wooden box 44 cm long, 32 cm wide and 28 cm high is made of wood 2.5 cm thick. Find the quantity of wood used.

(A) 16215 cm^3 (B) 15005 cm^3 (C) 16205 cm^3 (D) 15205 cm^3

27. The circumference of a circle is 100 cm. What is the side of a square inscribed in the circle?

(A) $\frac{100\sqrt{2}}{\pi}$ (B) $\frac{50\sqrt{2}}{\pi}$ (C) $\frac{100}{\pi}$ (D) $50\sqrt{2}$

28. A wire is in the form of a circle of radius 28 cm. What is the area of the square into which the wire is bent (π = 22/7)

(A) 1936 cm^2 (B) 1866 cm^2 (C) 19.36 cm^2 (D) none of these

29. If the length of a rectangle is increased by 50% and its breadth is decreased by 25%, what is the change percent in its area?

(A) 12.5% increase (B) 10% increase (C) 25% increase (D) 20% decrease

30. A reservoir is 45 m long and 12 m broad. How many kilo litres of water must be poured into it to raise the water level by 2 metres. [1 cub metric can contain 1 kiloliter]

(A) 540 (B) 1280 (C) 1080 (D) 1380

31. How many cubes can be cut out of a metre cube? Given that the parameter of the small cube is 48 cm.

(A) 7500 (B) 15625 (C) 9261 (D) 17576

32. A water tank whose dimensions are 1.5 m, 0.75 m and 0.48 m is full. Its contents are emptied into

another empty tank whose base area is 1 m^2. How much the water level shall rise?

(A) 64 m (B) 54 m (C) 5.4 cm (D) 34 cm

33. A hall is 100 m × 75 m × 22 m, the number of persons, who can be accommodated in it, each requiring 50 m^3 of air are :

(A) 2200 (B) 1100 (C) 2500 (D) 3300

34. The diagonal of cube is 15 m, what is its volume?

(A) $375\sqrt{3}$ m3 (B) 375 m^3 (C) $125\sqrt{3}$ m^3 (D) $750\sqrt{3}$ m^3

35. A cubic metre of a certain metal is hammered to from a fine sheet so as to cover one hectare of land. What is the thickness of the sheet?

(A) 1 cm (B) 0.1 cm (C) 0.01 cm (D) 0.001 cm

36. A conical flask of radius r and height h is full of water. It is emptied into another cylindrical flask of radius xr. If this flask becomes full, what is its height?

(A) $3x^2h$ (B) $\frac{h}{3x^2}$ (C) $\frac{xh}{3}$ (D) $\frac{3h}{x}$

37. It is required to construct a conical circus tent of radius 21 m and 35 m slant height. The width of the canvas cloth is 3 metre, what will be the length of the cloth which shall do the needful.

(A) 700 m (B) 1250 m (C) 776.5 m (D) 770 m

38. Two spheres have volumes in the ratio 64 : 729. If 160 ml paint is required for painting the surface area of the smaller sphere, how much paint is required to paint the larger one?

(A) 729 ml (B) 750 ml (C) 216 ml (D) 810 ml

39. The diagonal of a square A is a + b, the diagonal of a square B with twice the area of A is :

(A) 2 (a + b) (B) $\sqrt{2}$ (a + b) (C) a + 2b (D) 2a + 4b

40. The length of a rectangle is 1 cm more than its width and its perimeter is 14 cm, then the area of the rectangle is

(A) 16 cm^2 (B) 14 cm^2 (C) 12 cm^2 (D) 10 cm^2

41. If each of the dimensions of a rectangle is increased by 100%, then the area is increased by

(A) 100% (B) 200% (D) 300% (D) 400%

42. If the length of a rectangle is increased by $\frac{1}{3}$ rd and the width is decreased by $\frac{1}{3}$ rd, then the area of the rectangle is decreased by the fraction

(A) 2/3 (B) 1/6 (C) 1/9 (D) 1/8

43. The length of a given rectangle is increased by 20% and the breadth is decreased by 20%, then the area

(A) remains the same (B) increases by 5% (C) decreases by 5% (D) decreases by 4%

44. A room is rectangular in shape and has a flat roof. It is 10 m wide, 13 m long and 5 m high. It is to be painted inside and outside and on the floor but not on the ceiling, then the total area to be painted is

(A) 360 m^2 (B) 460 m^2 (C) 490 m^2 (D) 590 m^2

45. The side of an equilateral triangle are (2a – b) cm, (a + 3b) cm and (2a – 2b + 1) then the perimeter of the triangle is :

(A) 3 cm (B) 12 cm (C) 15 cm (D) 21 cm

46. In a right triangle with sides x and y, hypotenuse z, the altitude drawn on the hypotenuse is a, then

(A) $xy = a^2$ (B) $\frac{1}{x}+\frac{1}{y}=\frac{1}{a}$ (C) $2 + y^2 = 2a^2$ (D) $\frac{1}{x^2}+\frac{1}{y^2}=\frac{1}{a^2}$

47. If the diagonals of a rhombus are 24 dm and 10 dm, then the perimeter of the rhombus will be

(A) 68 dm (B) 60 dm (C) 52 dm (D) 50 dm

48. If the radius of the circle is increased by 100%, then the area is increased by

(A) 100% (B) 200% (C) 300% (D) 400%

49. The side of a square is 2 cm and semicircles are constructed on each side of the square, then the area of the whole figure is

(A) $(4 + 2\pi)$ cm^2 (B) $(4 + 4\pi)$ cm^2 (C) 4π cm^2 (D) 8π cm^2

50. The area of a square that can be inscribed in a circle of radius r is

(A) r^2 (B) $2r^2$ (C) $4r^2$ (D) $1\pi^2$

51. If the circumference of a circle is reduced by 50%, then the area will be reduced by

(A) 50% (B) 25% (C) 75% (D) 12.5%

52. The circumference of a circle is 100 cm. Then the side of a square inscribed in the circle is

(A) $\frac{100\sqrt{2}}{\pi}$ cm (B) $\frac{50\sqrt{2}}{\pi}$ cm (C) $\frac{100}{\pi}$ cm (D) $50\sqrt{2}$ cm

53. The area of a circle inscribed in an equilateral triangle is 48π square units. Then the perimeter of the triangle is (in units)

(A) $71\sqrt{3}$ (B) $48\sqrt{3}$ (C) 72 (D) 36

54. The area of the largest triangle that can be inscribed in a semi circle whose radius r cm is

(A) 2 r cm^2 (B) r^2 cm^2 (C) $2r^2$ cm^2 (D) $\frac{1}{4}$ r^2 cm^2

55. A cord in the form of a square encloses the area 'S' cm^2. If the same cord is bent into the form of a circle, then the area of the circle is

(A) $\frac{\pi S^2}{4}$ (B) $4\pi S^2$ (D) $\frac{S}{4\pi}$ (D) $\frac{4S}{\pi}$

56. A circular disc of radius 10 cm is divided into sectors with angles 120° and 150°, then the ratio of the areas of two sectors is

(A) 4 : 5 (B) 5 : 4 (C) 2 : 1 (D) 8 : 7

57. The areas of three adjacent faces of a cuboid are x, y and z, then the volume of the cuboid is :

(A) xy (B) xyz (C) $\sqrt{xyz}$ (D) $\sqrt[3]{xyz}$

58. Three metal cubes of volume 125 cm^3, 64 cm^3 and 27cm^3 are melted to form a new cube, then the edge of the new cube formed is

(A) 12 cm (B) 6 cm (C) 20 cm (D) 10 cm

59. If 'l', 'b' and 'h' of a cuboid are increased, decreased and increased by 1%, 3% and 2% respectively, then the volume of the cuboid

(A) increases

(B) decreases

(C) increases or decreases depending on original dimensions

(D) can't be calculated with given data

60. A metal pipe has an external diameter of 4 cm and internal diameter of 3 cm and is 20 cm long, then the volume of the metal used is

(A) 22 cm^3 (B) 110 cm^3 (C) 220 cm^3 (D) 440 cm^3

61. A rectangular paper of dimensions 6 cm and 3 cm is rolled to form a cylinder with height equal to the width of the paper, then its base radius is

(A) $\frac{6}{\pi}$ cm (D) $\frac{3}{2\pi}$ crn (C) $\frac{6}{2\pi}$ cm (D) $\frac{9}{2\pi}$ cm

62. A conical container of base radius 'r' and height 'h' is full of water which is poured into a cylindrical container of radius mr, then it will occupy a height equal to

(A) $3m^2h$ (B) $\frac{h}{3m^2}$ (C) $\frac{mh}{3}$ (D) $\frac{3h}{m}$

63. The volume of a sphere of diameter 2p cm is given by

(A) πp^2 cm^3 (B) πp^3 cm^3 (C) $4\pi p^3$ cm^3 (D) $\frac{4}{3}\pi p^3$ cm^3

64. The radius of a solid sphere is 'r' cm. It is bisected, then the total surface area of the two pieces obtained is

(A) $8\pi r^2$ cm^2 (B) $4\pi r^2$ cm^2 (C) $5\pi r^2$ cm^2 (D) $6\pi r^2$ cm^2

65. The radius of a sphere is increased by 50%, then the increase in surface area of a sphere is

(A) 200% (B) 150% (C) 125% (D) 50%

66. If the volume in m^3 and the surface area in m^2 of a sphere are numerically equal, then the radius of the sphere in m is

(A) 4 (B) 2 (C) 3.5 (D) 3

67. A sphere of radius 5 cm weights 4.4 kg, then the weight of a sphere of the same material whose radius is 3 cm is

(A) 2.64 kg (B) 1.584 kg (C) 0.9504 kg (D) $\frac{4}{3}$(0.9504) kg

68. The volume of a sphere is $\frac{4}{3}r^3$ cubic units, then the ratio of the volume of a cube to that of a sphere which will fit inside the cube is

(A) $\frac{4}{3} : \pi$ (B) 6 : π (C) 4 : 3 (D) 4 : π

69. If S_1 and S_2 be the whole surface of a sphere and the curved surface of circumscribed cylinder, then S_1 is equal to

(A) S_2 (B) $2S_2$ (C) $2S_2$ (D) $\frac{2}{3}S_2$

70. A sphere has the same volume as a cylinder whose height is equal to the diameter of its cross section, then the ratio of their radii is

(A) $\sqrt{\frac{2}{3}}$ (B) $\sqrt{\frac{3}{2}}$ (C) $\sqrt[3]{\frac{2}{3}}$ (D) $\sqrt[3]{\frac{3}{2}}$

71. A right circular cone and a cylinder have a circle of unit radius as base and thel heights are equal to the radius itself and a hemisphere has the same radius, then their volumes are proportional respectively to

(A) 1: 2 : 3 (B) 3: 2 : 1 (C) 2: 1 : 3 (D) 1: 3 : 2

72. In the case of cuboid, No denotes the number of vertices, N_1 the number of edges and N_2 the number of faces, then

(A) $N_0 + N_1 = N_2 + 2$ (B) $N_0 + N_2 = N_1 + 2$ (C) $N_1 + N_2 = N_0 + 2$ (D) $N_1 + N_2 = 2N_0$

73. If the diagonal of a rectangle is twice one of the sides, then the ratio of the sides of the rectangle is

(A) $\sqrt{2} : 1$ (B) $\sqrt{3} : 1$ (C) $2\sqrt{2} : 1$ (D) $2\sqrt{3} : 1$

74. The length of a rectangle exceeds its breadth by 3 cm. If the numerical values of the area and the perimeter of the rectangle are equal, then the breadth of a rectangle will be

(A) 2 cm (B) 3 cm (C) 1 cm (D) 5 cm

75. If the length of every side of a triangle is increased by 50%, then the area of the triangle will be increased by

(A) 50% (B) 100% (C) 125% (D) 150%

76. If the area of a circle is halved when its radius is decreased by n, then the radius is equal to

(A) n (2 + $\sqrt{2}$) (B) $n\left(\sqrt{2}-1\right)$ (B) $n\left(3-\sqrt{2}\right)$ (C) $n\sqrt{2}$

77. If the number of units in the circumference of a circle is same as the number of units in the area, then the radius of the circle will be

(A) 1 unit (D) 2 units (C) 3 units (D) 4 units

78. The side of a square is 2 cm. Semicircles are constructed on two sides of the square, then the area of the whole figure is

(A) $(4 + \pi)$ cm^2 (B) $(4 + 4\pi)$ cm^2 (C) 4π cm^2 (D) 8π cm^2

79. A piece of wire 132 dm long is bent successively in the shape of an equilateral triangle, a square, a regular hexagon and a circle. Then the area included is largest when the shape is

(A) triangle (B) square (C) hexagon (D) circle

80. A wire, in the shape of an equilateral triangle, encloses an area '5' cm^2. If the same wire is bent to form a circle, then the area of the circle will be

(A) $\frac{\pi S^2}{\pi}$ (B) $\frac{3S^2}{\pi}$ (C) $\frac{3S}{\pi}$ (D) $\frac{3S\sqrt{3}}{\pi}$

81. Two cubes have volumes in the ratio 1 : 27, then the ratio of the area of the face of one to that of the other is

(A) 1: 3 (B) 1: 6 (C) 1: 9 (D) 1: 18

82. The ratio of the height of a circular cylinder to the diameter of its base is 1 : 2, then the ratio of the areas of its curved surface to the sum of the areas of its two ends is

(A) 1: 1 (B) 1: 2 (C) 2:1 (D) 1: 3

83. The curved surface of a circular cylinder of height 'h' and the curved surface area of the cone of slant height '2h' having the same circular base, are in the ratio of

(A) 1 : 2 (B) 2 : 1 (C) 1 : 1 (D) 1 : 3

84. The volume of the greatest sphere cut off from a cylindrical wood of base radius 1 cm and height 5 cm is

(A) $\frac{4}{3}\times$ (5π) cm^3 (B) $\frac{4}{3}\pi$ cm^3 (C) 5π cm^3 (D) $\frac{10\pi}{3}$ cm^3

85. A solid cylinder of glass whose diameter is 1.5 m and height 1 m is melted and recasted into a sphere, then the radius of the sphere is

(A) 1 m (B) 0.75 m (C) 1.25 m (D) 1.5 m

86. The perimeter of a right angled triangle is 60 cm and its hypotenuse is 26 cm, then the area of the triangle is

(A) 120 cm^2 (B) 121 cm^2 (C) 119 cm^2 (D) 125 cm^2

87. The side of a regular hexagon is 'p' cm, then its area is

(A) $\frac{\sqrt{3}}{2}p^2$cm^2 (B) $\frac{3\sqrt{3}}{2}p^2$cm^2 (C) $2\sqrt{3}p^2$cm^2 (D) $6\pi^2$ cm^2

88. If every side of a triangle is doubled, then the area of the new triangle is 'K' times the area of the old one. The value of K is

(A) 2 (B) 3 (C) $\sqrt{2}$ (D) 4

89. If the longer side of a rectangle is doubled and the other reduced to half, then the area of the new rectangle goes up by

(A) 50% (B) 100% (C) 150% (D) no change

90. If a rectangle of sides 5 cm and 15 cm is to be divided into three squares of equal area, then the sides of the squares will be

(A) 4 cm (B) 6 cm (C) 7 cm (D) none

91. Three cubes of metal whose edges are 3 cm, 4 cm and 5 cm are melted to form a new cube whose side is

(A) 4 cm (B) 5 cm (C) 6 cm (D) 12 cm

92. A closed tea box has 47 cm × 47 cm × 60 cm internal dimensions, then the total area of tin foil needed for lining it is

(A) 1.57 m (B) 1.81 m (C) 1.46 m (D) 2.10 m

93. The length, breadth and height of a cuboid are in the ratio of 5 : 4 : 2 and the total surface area is 1216 cm^2, then the volume of the cuboid is

(A) 2460 cm^3 (B) 2560 cm^3 (C) 2660 cm^3 (D) 2700 cm^3

94. A wood 1 cm thick required to make a box of dimensions 24 cm × 22 cm × 17 cm, is

(A) 2276 cm^3 (B) 2500 cm^3 (C) 2600 cm^3 (D) 2376 cm^3

95. The volume of a solid cubical box whose surface area is 600 cm^2 is

(A) 1000 cm^3 (B) 1200 cm^3 (C) 1100 cm^3 (D) 900 cm^3

96. If two cubes each of side 12 cm are joined end to end, then the surface area a the resulting cuboid is

(A) 1728 cm^2 (B) 1440 cm^2 (C) 1445 cm^2 (D) 1450 cm^2

97. The number of bullets of radius 2 cm that can be made from a cube of lead whose side is 44 cm is

(A) 2540 (B) 2541 (C) 2560 (D) 2575

98. If the radius of a lead shot 9 cm is melted and recasted into a right circular cylinder of height 8 cm and radius 6 cm, then the internal radius of the shot is

(A) 6 cm (B) 7 cm (C) 8 cm (D) 9 cm

99. If a sphere has the same curved surface area as total surface area of cone of vertical height 40 cm and radius 30 cm, then the radius of the sphere is

(A) $10\sqrt{6}$ cm (B) $10\sqrt{3}$ cm (C) $10\sqrt{2}$ cm (D) 12 cm

100. If the sphere of radius 6 cm is melted and drawn into a wire of radius 0.2 cm, then the length of the wire is

(A) 75 cm (B) 72 cm (C) 72 m (D) 75 m

ANSWER KEY

MENSURATION

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	B	B	D	A	C	D	D	B	A	B	A	D	D	B	D
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	B	A	A	D	C	D	D	D	C	B	D	B	A	A	C
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	B	B	D	A	C	B	D	D	D	C	C	C	D	D	D
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	D	B	C	A	B	C	B	C	B	D	A	C	B	B	B
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	C	B	D	D	C	D	C	B	A	D	D	B	B	B	C
Que.	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Ans.	A	B	A	D	D	C	A	C	B	B	A	B	D	D	D
Que.	91	92	93	94	95	96	97	98	99	100					
Ans.	C	A	B	D	A	B	B	C	A	C					