15.Surface Areas & Volumes

I .Choose the correct alternative and write the complete answer along with its letter of alphabet.

1. The formula used to find the total surface area of a solid cylinder is:

    A] $2\pi rh$ B] $\pi r^2(r + h)$ C] $\pi r(r + h)$ D] $2\pi r (r + h)$

2. A = $2\pi r(r + h)$. This formula can be used to find:

    A] lateral surface area of a cylinder   B] total surface area of a cylinder

    C] volume of a cylinder   D] surface area of a sphere

3. The formula to find the curved surface area of a cylinder is:

    A] $2\pi rh$ B] πr^2h C] $2\pi r^2h$ D] $2\pi r (r + h)$

4. The curved surface area of a frustum of a cone is given by:

    A] $\pi(r_1 + r_2)l$ B] $\pi(r_1 + r_2)h$ C] $\pi(r_1 - r_2)l$ D] $\pi(r_1 - r_2)h$

5. If the circumference of the base of a cylinder is 44cm and height 20cm, then its lateral surface area is:

    A] 440sq.cm   B] 880 sq.cm   C] 88 sq cm   D] 44 sq cm

6. The height of a hallow cylinders 7cm and its radius is 3.5cm. Then the surface area is:

    A] 231 cm²   B] 154 cm²   C] 308cm²   D] 115.5cm²

7. The area of the base of a circular cylinder is 154sq.cm and height is 10cm, volume is

    A] 144cc   B] 1540 cc   C] 154cc   D] 15.4cc

8. The volume(V) of a cylinder with radius of its base(r) and height(h), is calculated using the formula:

    A] v = $\frac{1}{3} \pi r^2h$ B] v = $2\pi rh$ C] v = πr^2h D] v = πrh

9. If   V=πr^2h , then r is equal to:

    A] $\pm\sqrt{\frac{Vh}{\pi}}$ B] $\pm\sqrt{\frac{\pi h}{V}}$ C] $\pm\sqrt{\frac{V}{\pi h}}$ D] $\pm\sqrt{\frac{\pi V}{h}}$

10. A metal sheet of length 2cm and breadth 44cm is rolled to form a hollow

    Pipe of length 2cm. then the radius of that pipe is:

    A] 44cm   B] 22cm   C] 11cm   D] 7cm

11. The volume of a cylinder is 1540cm³. Its height is 10cm.The area of its base is:

    A] 15400sq cm   B] 154 sq cm   C] 1540sq cm   D] 1550sq cm

12. The height of water level in a circular well is 7m and its diameter is 10m.
    Volume of water stored in the well is:
    A] 550 cubic m   B] 70 cubic m   C] 35 cubic m   D] 110 cubic m

13. The radii of two cylinders are in the ratio 2:3 and their heights are in the ratio
    5:3. The ratio of their volume is:
    A] 27 : 20   B] 20 : 27   C] 9 : 4   D] 4 : 9

14. The circumference of the circular base of a cone is 50cm. if the slant height
    Of it is 10cm, the curved surface area of the cone is:
    A] 125 sq cm   B] 2500 sq cm   C] 500 sq cm   D] 250 sq cm

15. A solid cylinder and a cone have the same radius and height. If the volume of
    Cylinder is 27cc, then the volume of cone is:
    A] 9 cc   B] 27 c c   C] 81 c c   D] 3 c c

16. The revolution of a right angled triangle about one of the sides containing
    the right angle generates solid called
    A] cone   B] cylinder   C] sphere   D] cube

17. The number of plane surfaces in a solid cone is
    A] 0   B] 1   C] 2   D] 3

18. The volume of a solid cone is 60 cm^3 and the area of the base is 20 cm^2.
    Then the height is:
    A] 6cm   B] 9cm   C] 12cm   D] 18cm

19. If l^2 = r^2 + h^2 , then the value of h is
    A] $\pm\sqrt{l^2 - r^2}$ B] $\pm\sqrt{r^2 - l^2}$ C] $\pm\sqrt{l^2 + r^2}$ D] $\pm\sqrt{l - r}$

20. The volume of a cone is 90cm^3. The volume of a cylinder whose height and
    radius is same as that of the cone is:
    A] 30cm^3 B] 45cm^3 C] 90cm^3 D] 270cm^3

21. The curved surface area of a cone is 440 sq cm. If the slant height is 14cm,
    then its radius is:
    A] 5cm   B] 10cm   C] 12cm   D] 14cm

22. Formula to find the curved surface area of a cone is
    a] $\pi r^2 l$ B] $\pi r l$ C] $\pi r (r + 1)$ D] $2\pi r l$

23. The height of a cone with slant height 15cm and radius 9 cm is:
    A] 6 cm   B] 3 cm   C] 5cm   D] 12 cm

24. Area of the base of a cone is 300 sq cm and height is 15, then the volume is
    A] 4500 cm^3 B] 450 cm^3 C] 150 cm^3 D] 1500 cm^3

25. If r, h and l are the radius, height and slant height respectively of a cone, then which of the following relations is correct?

    A] $r^2 = h^2 + l^2$ B] $h^2 = l^2 + r^2$ C] $l^2 = h^2 + r^2$ D] $l^2 = h^2 - r^2$

26. The curved surface area of a cone whose circumference of the base is 66 cm and slant height is 12 cm is:

    A] 396 sq cm   B] 792 sq cm   C] 78 sq cm   D] 54 sq cm

27] If surface area of two spheres are in the ratio 25 : 36, then the ratio of their radii is :

    A] 625 : 1296   B] 7 : 9   C] 6 : 5   D] 5 : 6

28. The surface area of a sphere whose radius is 7 cm, is:

    A] 516 cm²   B] 416cm²   C] 88 cm²   D] 616 cm²

29. Ratio between the radii of two solid spheres is 2 : 3, then the ratio between their volumes is:

    A] 8 : 27   B] 4 : 9   C] 2 : 3   D] $\sqrt{2}: \sqrt{3}$

30. The solid described by revolution of a semi-circle about a fixed diameter is a:

    A] cone   B] cylinder   C] hemisphere   d] sphere

31. Circumference of a globe is 88 cm, then the surface area of the globe is:

    A] 2464 sq cm   B] 352 sq cm   C] 616 sq cm   D] 1032 sq cm

32. Volume of two spheres are in the ratio 64 : 27. The ratio of their surface areas is

    A] 16 : 9   B] 9 : 16   C] 4 : 3   D] 3 : 4

33. The surface areas of the two spheres are in the ratio 1:2. The ratio of their volume is

    A] 1 : 4   B] 1 : 8   C] $1 : 2\sqrt{2}$ D] $\sqrt{2} : 1$

34. The surface area of a solid hemisphere is

    A] πr^2 B] $4\pi r^2$ C] $\frac{4}{3}\pi r^2$ D] $3\pi r^2$

35. Formula for total surface area of a solid hemisphere is:

    A] $4\pi r^2$ B] $2\pi r^2$ C] $3\pi r^2$ D] πr^2

36. The ratio of the total surface area of a solid hemisphere to the square of its radius is:

    A] $3\pi : 1$ B] $2\pi: 1$ C] $4\pi : 1$ D] 1 : 14

37. A hemispherical bowl has radius 21 cm. the volume of hemispheres is:

    A] $\frac{4}{3}\pi(21)^2$ sq cm   B] $\frac{4}{3}\pi(21)^3$ cu cm

    C] $\frac{2}{3}\pi(21)^2$ sq cm   D] $\frac{2}{3}\pi(21)^3$ cu cm

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38. The radius of a sphere is r cm. it is divided into two equal parts. The whole surface of two parts will be:

A] $6\pi r^2$ cm²   B] $8\pi r^2$ cm²   C] $4\pi r^2$ cm²   D] $2\pi r^2$ cm²

39. The diagonal of a square is d units. Then the area of the square is

A] $\frac{d}{\sqrt{2}}$ B] $\frac{d^2}{\sqrt{2}}$ C] $\frac{d^2}{2}$ D] $\frac{2}{d^2}$

40, The diagonal of a square is $10\sqrt{2}$ cm. then the length of its side is

A] 2cm   B] 10 cm   C] 8 cm   D] 20 cm

41. The dimentions of rectangular plot is 12 m and 16 m. The length of the longest line that can be drawn in it is:

A]16cm   B]20cm   C]24cm   D]28cm

42] Perimeter of square is 20cm, The the length of the diagonal is:

A] $10\sqrt{2}$ B]10 cm   C] $5\sqrt{2}$ D] 5 cm

43. A solid plastic sphere melted and converted into a solid cube. Then there Will be no change in its:

A] length   B] breadth   C] area of surface   D] Volume

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