MATHS

BOOKS - UNITED BOOK HOUSE

Right Circular Cone

Exercise

1. Multiple Choice Questions (MCQ) Number of

surface of a solid right circular cone is

A. 1

B. 2

C. 3

D. none of these.

Answer:

2. If the base radius and height of a right circular cone are r and h respectively, then the volume of the cone is

A. $\dfrac{1}{3}\Pi r^2 h$

B. $\Pi r^2 h$

C. $\dfrac{4}{3}\Pi r^2 h$

D. $4\Pi r^2 h$

Answer:

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3. If the base radius and height of a right circular cone are 2R and H respectively, then the area of total surface of the cone is

A. $\Pi R\left(R + \sqrt{H^2 + R^2}\right)$

B. $2\Pi R\left(R + \sqrt{H^2 + R^2}\right)$

C. $2\Pi R\left(2R + \sqrt{H^2 + 4R^2}\right)$

D. $2\Pi R\left(\sqrt{H^2 + 2R^2} + 2R\right)$

Answer:

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4. If the base radius and height of a right circular cone are 28dcm. And 21dcm., then the slant height of the cone is

A. 3.5dcm.

B. 35dcm

C. 12.25dcm.

D. 34dcm.

Answer:

5. If the volume and lateral surface of a right

circular cone are numarically equal and the

height and base radius of the cone are h and r respectively, then the value of $\dfrac{1}{r^2} + \dfrac{1}{h^2}$ is

A. 1/9

B. 1/3

C. 3

D. 9

Answer:

6. If the height, slant height and diameter of base of a right ciecular cone are h, l, d respectively then the value of $\dfrac{l^2 - h^2}{d^2}$ is

A. 4

B. 1/4

C. 2

D. 1/2

Answer:

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7. If the area of the curved surface of a right circular cone is $\sqrt{17}$ times the area of its base, then the ratio of the height and diameter of the base of the cone is

   A. 1 : 4

   B. 1 : 2

   C. 4 : 1

   D. 2 : 1.

Answer:

8. If the height and slant height of a right circular cone are 5cm. And 13cm. Then the volume of the cone is

A. `100Pic.c

B. `150Pi c.c.

C. `200Pi c.c

D. `240Pi c.c.

Answer:

9. If the ratio of the volumes of two right circular cones is 16 : 27 and the ratio of their height is 4 : 3, then the ratio of their radii is

A. 3 : 2

B. 2 : 3

C. 4 : 3

D. 3 : 4.

Answer:

10. Keeping the radius of a cone fixed, If the height is doubled, then the volume of the cone is increased by

A. 0.25

B. 0.5

C. 0.75

D. 2

Answer:

11. The slant height and whole surface of a right circular cone are 7 cm and 147.84 cm^2. The radius of base of that cone will be____

    A. -56/5. 4.2

    B. only -56/5

    C. only 4.2

    D. none of these.

Answer:

12. If the radii of the circular ends of a bucket of height 40 cm are of lengths 35 cm and 14 cm, then the volume of the bucket in cubic centimeters, is___

    A. 60060

    B. 80080

    C. 70040

    D. 80160

Answer:

13. A solid sphere of radius r is melted and cast into the shape of a solid cone of height r, the radius of the base of the cone is____

A. 2r

B. 3r

C. r

D. 4r

Answer:

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14. A metallic hemisphere is melted and recast in the shape of a cone with same base radius (R) as that of the hemisphere. If H is the height of the cone, then___

    A. H = 2R

    B. H = 2/3R

    C. H = $\sqrt{3}R$

D. H = 3R

Answer:

15. Volume of two cones are in the ratio 1 : 4 and their diameter in the ratio 4 : 5. The ratio of their heights is_____

A. 1 : 5

B. 5 : 4

C. 5 : 16

D. 25 : 64

Answer:

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16. If a right circular cone is separated into solids of volumes V_1, V_2, V_3 by two planes parallel to the base, which also trisect the altitude, then $V_1 : V_2 : V_3$ is____

A. 1 : 2 : 3

B. 1 : 4 : 6

C. 1 : 6 : 9

D. 1 : 7 : 9

Answer:

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17. The height of the cone is 30 cm. A small cone is cut off at the top by a plane parallel to its base. If it volume is 1/27 of the volume of

the cone, at what height, above the base, is

section is made?

A. 6 cm

B. 8 cm

C. 10 cm

D. 20 cm

Answer:

18. If the area of the base of a cone is 770 cm^2 and the area of the curved surface is 814 cm^2, the its volume ($\in cm^3$) is____

A. $213\sqrt{5}$

B. $392\sqrt{5}$

C. $550\sqrt{5}$

D. $616\sqrt{5}$

Answer:

19. The radius of the base and height of a right circular cone are in the ratio 5 : 12. If the volume of the cone is 314 2/7 cm^3, the slant height (in cm) of the cone will be____

A. 12

B. 13

C. 15

D. 17

Answer:

20. Two solid right cones of equal height and of radii r_1 and r_2 are melted and madeto form a solid sphere of radius R. Then the height of the cone is_____

A. $\dfrac{4R^2}{r_1^2 + r_2^2}$

B. $\dfrac{4R}{r_1 + r_2}$

C. $\dfrac{4R^3}{r_1^2 + r_2^2}$

D. $\dfrac{R^2}{r_1^2 + r_2^2}$

Answer:

21. The radius of the base of a right circular cone is doubled keeping its heights fixed. The volume of the cone will be____

A. three times of the previous volume

B. four times of the previous volume

C. $\sqrt{2}$ times of the previous volume

D. double of the previous volume

Answer:

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22. The base of a right circular cone has the same radius a as that of a sphere. Both the sphere and the cone have the same volume. Height of the cone is____

A. 3a

B. 4a

C. 7/4a

D. 7/3a

Answer:

23. The circumference of the base of a 16 cm height solid cone is 33 cm. What is the volume of the cone in cm^3?

A. 1028

B. 616

C. 462

D. 828

Answer:

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24. The volume of a conical tent is 1232 cu. M and the area of its base is 154 sq. m. Find the length of the canvas required to build the text, if the canvas is 2m in width____

A. 270 m

B. 272 m

C. 276 m

D. 275 m

Answer:

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25. If S denotes the area of the curved surface of a right circular cone of height h and semivertical angle α then S equals___

A. $\Pi h^2 \tan^2 \alpha$

B. $\dfrac{1}{3}\Pi h^2 \tan^2 \alpha$

C. $\Pi h^2 \sec \alpha \tan \alpha$

D. $\dfrac{1}{3}\Pi h^2 \sec \alpha \tan \alpha$

Answer:

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26. The height and the radius of the base of a right circular cone are 12 cm and 6 cm respectively. The radius of the circular cross-

section of the cone cut by a plane parallel to

its base at a distance of 3 cm from the base

is___

A. 4 cm

B. 5.5 cm

C. 4.5 cm

D. 3.5 cm

Answer:

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27. A right angled sector of radius r cm is rolled up into a cone in such a way that the two binding radii are joined together. Then the curved surface area of the cone is____

A. $\Pi r^2 cm^2$

B. $4\Pi r^2 cm^2$

C. $\dfrac{\Pi r^2}{4} cm^2$

D. $2\Pi r^2 cm^2$

Answer:

28. The radius of base and slant height of a cone are in the ratio 4 : 7. If its curved surfacearea is 792 cm^2, then the radius (in cm) of its base is____

   A. 8

   B. 12

   C. 14

   D. 16

Answer:

29. If h, c, v are respectively the height, curved surface area and volume of a right circular cone, then the value of $\left(3\Pi vh^3 - c^2h^2 + 9v^2\right)$ is___

A. 2

B. -1

C. 1

D. 0

Answer:

30. The radius of the base of a conical tent is 16 metres. If 427 3/7 sq. metre canvas is required to construct the tent, then the slant height of the tent (in metre) is___

   A. 17

   B. 15

   C. 19

D. 8.5

Answer:

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