Surface Areas and Volumes Quiz

1. The formula for the volume of a cylinder with radius ( r ) and height ( h ) is:

A. ( pi r^2h )

B. ( 2pi rh )

C. ( pi rh^2 )

D. ( 2pi r^2h )

2. What is the surface area of a sphere with a radius of 7 cm? (Use ( pi = frac{22}{7} ))

A. ( 616 ) cm²

B. ( 308 ) cm²

C. ( 154 ) cm²

D. ( 462 ) cm²

3. A cube has a volume of ( 64 ) cm³. What is the length of one side?

A. ( 4 ) cm

B. ( 8 ) cm

C. ( 16 ) cm

D. ( 3 ) cm

4. The volume of a cone with a base radius of 3 cm and height of 4 cm is:

A. ( 12pi ) cm³

B. ( 36pi ) cm³

C. ( 48pi ) cm³

D. ( 4pi ) cm³

5. If the height of a cylinder is increased by 100% without changing the radius, its volume will:

A. Remain the same

B. Double

C. Triple

D. Quadruple

6. What is the total surface area of a hemisphere with radius 5 cm? (Use ( pi = 3.14 ))

A. ( 157 ) cm²

B. ( 314 ) cm²

C. ( 235.5 ) cm²

D. ( 471 ) cm²

7. The formula for the curved surface area of a cone is:

A. ( pi rl )

B. ( pi r^2l )

C. ( pi r^2 )

D. ( pi rl^2 )

8. A cylinder and a cone have the same base radius and height. The ratio of their volumes is:

A. 1:1

B. 2:1

C. 3:1

D. 1:3

9. The volume of a frustum of a cone with height ( h ), lower radius ( R ), and upper radius ( r ) is:

A. ( frac{1}{3}pi h(R^2 + r^2 + Rr) )

B. ( pi h(R^2 + r^2 + Rr) )

C. ( frac{1}{3}pi h(R^2 + r^2) )

D. ( pi h(R + r) )

10. The diameter of a sphere is 6 cm. Its volume is (Use ( pi = frac{22}{7} )):

A. ( 36pi ) cm³

B. ( 72pi ) cm³

C. ( 108pi ) cm³

D. ( 216pi ) cm³

11. A cuboid has dimensions of 5 cm, 3 cm, and 4 cm. Its total surface area is:

A. ( 94 ) cm²

B. ( 60 ) cm²

C. ( 120 ) cm²

D. ( 54 ) cm²

12. The lateral surface area of a right circular cylinder is ( 220 ) cm² and its radius is 7 cm. The height of the cylinder is:

A. ( 10 ) cm

B. ( 5 ) cm

C. ( 15 ) cm

D. ( 20 ) cm

13. If three metallic spheres of radii 6 cm, 8 cm, and 10 cm are melted to form a single sphere, the radius of the new sphere is:

A. ( 12 ) cm

B. ( 14 ) cm

C. ( 16 ) cm

D. ( 18 ) cm

14. The ratio of the total surface area to the lateral surface area of a cylinder with height equal to the radius is:

A. 2:1

B.

3:2

C. 4:3

D. 3:1

15. A cone with a radius of 3 cm and slant height of 5 cm has a volume of:

A. ( 15pi ) cm³

B. ( 30pi ) cm³

C. ( 45pi ) cm³

D. ( 9pi ) cm³

16. The formula for the volume of a sphere is:

A. ( frac{4}{3}pi r^3 )

B. ( 4pi r^2 )

C. ( pi r^3 )

D. ( frac{4}{3}pi r^2 )

17. A right circular cylinder with a base area of ( 154 ) cm² and height 10 cm has a volume of:

A. ( 1540 ) cm³

B. ( 770 ) cm³

C. ( 3850 ) cm³

D. ( 3080 ) cm³

18. The surface area of a cube is ( 150 ) cm². The length of its diagonal is:

A. ( 5sqrt{3} ) cm

B. ( 25sqrt{3} ) cm

C. ( 10sqrt{2} ) cm

D. ( 5sqrt{2} ) cm

19. A hollow iron pipe is 21 cm long and its external diameter is 8 cm. If the thickness of the pipe is 1 cm and iron weighs 8 g/cm³, then the weight of the pipe is:

A. ( 3.696 ) kg

B. ( 4.032 ) kg

C. ( 2.688 ) kg

D. ( 5.376 ) kg

20. If the radius of the base of a cylinder is halved and the height is doubled, the volume of the cylinder will be:

A. The same

B. Halved

C. Doubled

D. Quadrupled

### Surface Areas and Volumes Quiz Answer Key

1. A

2. A

3. A

4. B

5. B

6. B

7. A

8. C

9. A

10. D

11. B

12. A

13. B

14. B

15. B

16. A

17. A

18. A

19. A

20. A

Next, we will prepare the quiz for "Statistics." Let me know if you're ready to proceed!