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) cm^3
B. (72pi) cm^3
C. (108pi) cm^3
D. (216pi) cm^3

11. A cuboid has dimensions of 5 cm, 3 cm, and 4 cm. Its total surface area is:
A. (94) cm^2
B. (60) cm^2
C. (120) cm^2
D. (54) cm^2

12. The lateral surface area of a right circular cylinder is (220) cm^2 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) cm^3
B. (30pi) cm^3
C. (45pi) cm^3
D. (9pi) cm^3

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) cm^2 and height 10 cm has a volume of:
A. (1540) cm^3
B. (770) cm^3
C. (3850) cm^3
D. (3080) cm^3

18. The surface area of a cube is (150) cm^2. 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!