

Unit 5: Solid Geometry

PRACTICE · SET 2

Name: _____ Date: _____

Show all work. Give exact answers; leave pi in your answers (do not round). Include correct units where they apply.

1. Find the volume of a rectangular prism with length 8 cm, width 5 cm, and height 3 cm.

Answer: _____

2. Find the total surface area of a cube whose edge length is 6 in.

Answer: _____

3. Find the volume of a cylinder with radius 4 m and height 10 m.

Answer: _____

4. Find the volume of a cone with radius 3 ft and height 7 ft. Use $V = (1/3)\pi r^2 h$.

Answer: _____

5. Find the volume of a sphere with radius 6 cm. Use $V = (4/3)\pi r^3$.

Answer: _____

6. Find the surface area of a sphere with radius 5 in. Use $SA = 4\pi r^2$.

Answer: _____

7. Find the volume of a square pyramid with base edge 9 m and height 12 m. Use $V = (1/3) \times (\text{base area}) \times \text{height}$.

Answer: _____

8. Find the total surface area of a cylinder with radius 3 cm and height 8 cm. Use $SA = 2\pi r^2 + 2\pi r h$.

Answer: _____

9. A triangular prism has a right-triangle base with legs 5 cm and 12 cm, and a prism length of 10 cm. Find its volume.

Answer: _____

10. A plane cuts a cylinder of radius 6 cm parallel to its circular base, forming a circular cross-section. Find the area of that cross-section.

Answer: _____

11. Two similar solids have a scale factor (ratio of corresponding lengths) of 2:5. Find the ratio of their volumes, smaller to larger.

Answer: _____

12. A rectangular prism is enlarged by a scale factor of 4. By what factor does its surface area increase?

Answer: _____