

Unit 5: Solid Geometry

PRACTICE

Name: _____ Date: _____

Solve each problem. Give exact answers; leave π in your answers where it appears. Show units are not required — just the numeric value.

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

Answer: _____

2. Find the total surface area of a cube with edge length 6.

Answer: _____

3. Find the volume of a cylinder with radius 4 and height 10. Give your answer in terms of π .

Answer: _____

4. Find the volume of a sphere with radius 3. Give your answer in terms of π .

Answer: _____

5. Find the volume of a cone with radius 6 and height 7. Give your answer in terms of π .

Answer: _____

6. Find the volume of a rectangular pyramid whose base measures 9 by 4 and whose height is 10.

Answer: _____

7. Find the total surface area of a closed cylinder with radius 3 and height 5. Give your answer in terms of π .

Answer: _____

8. Find the surface area of a sphere with radius 5. Give your answer in terms of π .

Answer: _____

9. Two similar solids have corresponding edge lengths in the ratio 2:5. Find the ratio of their volumes (smaller to larger).

Answer: _____

10. A cube has edge length 7. A plane cuts through the cube parallel to one of its faces. Find the area of the resulting cross-section.

Answer: _____

11. Find the volume of a triangular prism whose triangular base has legs of length 6 and 8 (a right triangle) and whose length is 10.

Answer: _____

12. Two similar solids have edge lengths with scale factor 3 (larger to smaller). The smaller solid has surface area 20. Find the surface area of the larger solid.

Answer: _____