

Unit 5: Solid Geometry

CONCEPT

Name: _____ Date: _____

Show your work and give each answer as a single exact value; use pi where asked.

1. Find the volume of a cube with edge length 3 units. 2. Find the volume of a rectangular prism with length 4, width 2, and height 5.

Answer: _____

Answer: _____

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

Answer: _____

4. Find the volume of a cylinder with radius 2 and height 5. Give your answer in terms of pi.

Answer: _____

5. Find the volume of a cone with radius 3 and height 4. Give your answer in terms of pi. (Use $V = (1/3) \times \pi \times r^2 \times h$.)

Answer: _____

6. Find the volume of a sphere with radius 3. Give your answer in terms of pi. (Use $V = (4/3) \times \pi \times r^3$.)

Answer: _____

7. Find the total surface area of a rectangular prism with length 2, width 3, and height 4.

Answer: _____

8. A cube with edge length 5 is sliced by a plane parallel to one of its faces. Find the area of the resulting square cross-section.

Answer: _____

9. A solid is enlarged by a scale factor of 2. If the original volume is 5 cubic units, find the volume of the enlarged solid.

Answer: _____

10. A solid is enlarged by a scale factor of 3. If the original surface area is 4 square units, find the surface area of the enlarged solid.

Answer: _____

11. Find the volume of a square pyramid with base side length 6 and height 5. (Use $V = (1/3) \times \text{base area} \times \text{height}$.)

Answer: _____

12. Find the volume of a triangular prism whose triangular base has base 4 and height 3, and whose prism length is 5.

Answer: _____