Lesson 20: Volume of Pyramids, Cones and Spheres [PATHS]

Year 10 Mathematics Unit 1 — Block C | Worksheet

Name _____ Date _____ Class _____

Multiple Choice

Q1. What is the volume of a cone with radius 4 cm and perpendicular height 9 cm?

A) 48pi cm^3 B) 144pi cm^3 C) 16pi cm^3 D) 36pi cm^3

Q2. A sphere has radius 6 cm. What is its volume?

A) 144pi cm^3 B) 288pi cm^3 C) 216pi cm^3 D) 864pi cm^3

Q3. A square-based pyramid has base side 8 cm and height 6 cm. What is its volume?

A) 128 cm^3 B) 384 cm^3 C) 96 cm^3 D) 192 cm^3

Q4. A cone and a cylinder have the same radius and the same height. The cylinder has volume 60pi cm^3. What is the volume of the cone?

A) 20pi cm^3 B) 30pi cm^3 C) 180pi cm^3 D) 60pi cm^3

Q5. A solid metal ball bearing has radius 0.5 cm. What is its volume?

A) pi/6 cm^3 B) pi/3 cm^3 C) pi/2 cm^3 D) 2pi/3 cm^3

Short Answer

Q6. Find the volume of a cone with radius 4 cm and perpendicular height 12 cm. *(2 marks)*

Q7. A hemisphere of radius 6 cm sits on top of a cone of radius 6 cm and height 8 cm. Find the total volume of the solid. *(3 marks)*

Q8. A rectangular-based pyramid has base 10 m by 8 m and height 6 m. A rectangular prism with the same base and height would hold how many times more volume? Explain why. *(3 marks)*

Key Formulas

- Write any formulas you need here.