Lesson 18: Volume of Prisms and Cylinders

Year 10 Mathematics Unit 1 — Block C | Worksheet

Name _____ Date _____ Class _____

Multiple Choice

Q1. What is the volume of a rectangular prism with dimensions 6 cm, 5 cm and 4 cm?

A) 120 cm^3 B) 60 cm^3 C) 15 cm^3 D) 30 cm^3

Q2. A cylinder has radius 3 cm and height 7 cm. What is its volume?

A) 21pi cm^3 B) 63pi cm^3 C) 42pi cm^3 D) 147pi cm^3

Q3. How many litres are in 3500 cm^3?

A) 350 L B) 35 L C) 3.5 L D) 0.35 L

Q4. A triangular prism has a base triangle with base 10 cm and height 6 cm. The prism length is 15 cm. What is its volume?

A) 450 cm^3 B) 900 cm^3 C) 300 cm^3 D) 150 cm^3

Q5. Which solid has the greatest volume: a cube of side 5 cm, or a cylinder of radius 3 cm and height 5 cm?

A) Cube B) Cylinder C) They are equal D) Cannot determine

Short Answer

Q6. Find the volume of a cylinder with diameter 14 cm and height 10 cm. *(2 marks)*

Q7. A rectangular aquarium measures 90 cm by 45 cm by 50 cm. It is filled to 5 cm from the top. How many litres of water does it contain? *(3 marks)*

Q8. Explain why the formula V = A_base x h works for all prisms, including cylinders. Use a cylinder as an example. *(3 marks)*

Key Formulas

- Write any formulas you need here.