

Lesson 16: Surface Area of Prisms

Year 10 Mathematics Unit 1 — Block C | Worksheet

Name _____

Date _____

Class _____

Multiple Choice

Q1. How many faces does a closed rectangular prism have?

- A) 4 B) 5 C) 6 D) 8

Q2. What is the surface area of a closed rectangular prism with dimensions 6 cm, 4 cm and 3 cm?

- A) 72 cm^2 B) 108 cm^2 C) 54 cm^2 D) 144 cm^2

Q3. An open-top box has dimensions 10 cm by 8 cm by 5 cm. What is its surface area?

- A) 340 cm^2 B) 260 cm^2 C) 420 cm^2 D) 170 cm^2

Q4. A triangular prism has a right-angled triangular base with sides 3 cm, 4 cm and 5 cm. The prism length is 10 cm. What is the total surface area?

- A) 120 cm^2 B) 132 cm^2 C) 144 cm^2 D) 72 cm^2

Q5. Which change would increase the surface area of a closed box the most?

- A) Increase length by 2 cm B) Increase width by 2 cm C) Increase height by 2 cm
D) Cannot determine without knowing which dimension is smallest

Short Answer

Q6. Find the surface area of a closed rectangular prism with dimensions 12 cm by 5 cm by 4 cm. (2 marks)

Q7. An open-top fish tank measures 80 cm by 50 cm by 40 cm. Calculate the area of glass needed. (3 marks)

Q8. Explain why the surface area of an open prism is always less than the surface area of a closed prism with the same dimensions. (3 marks)

Key Formulas

- Write any formulas you need here.