Prism volume and capacity

Learn and practise | Free preview

A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• Connect prism volume to capacity using consistent metric units.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

Volume of a right prism is cross-sectional area ×length. Capacity measures how much a container holds; 1 cm^3=1 mL and 1000 cm^3=1 L.

Convert linear dimensions into a common unit before multiplying. A metre is 100 centimetres, but a cubic metre is 1 000 000 cubic centimetres.

Worked example

A tank interior is 40 cm by 25 cm by 30 cm. Find capacity in litres.

Volume=40×25×30=30 000 cm^3.

Divide by 1000.

Answer: 30 L

Try it yourself

Name: _____ Date: _____

1. Convert 4500 cm^3 to litres.

2. Find the capacity of a rectangular box with internal dimensions 20 cm by 15 cm by 10 cm.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. 4.5 L

Divide by 1000.

2. 3 L

3000 cm³ equals 3 L.

Curriculum reference: VC2M8M02

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