

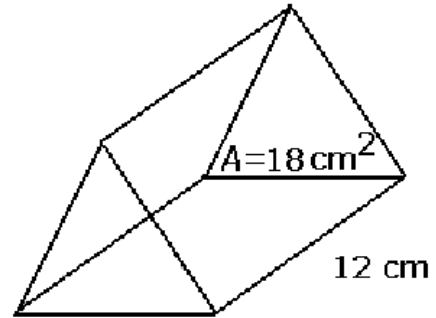
MATC9 Ch3.1 Key Concepts 4 Volume of a Prism Worked Example

Example: A water prism used in a physics experiment is 12 cm long, and the end has an area of 18 cm^2 . How much water does it take to fill it?

Solution: The volume of a prism is calculated by multiplying the base area by the height.

$$\begin{aligned} V &= 18 \times 12 \\ &= 216 \text{ cm}^3 \end{aligned}$$

The volume is 216 cm^3 .



Practice:

1. Shelley built a water trough for her horse. It had a triangular cross-section with an area of 0.5 m^2 , and a length of 2.4 m. How much water did it hold?

2. The fuel tank for an airplane has a D-shaped cross-section with an area of 1200 cm^2 , and a length of 90 cm. How much fuel does it hold?

Answers: 1. 1.2 m^3 2. $108\,000 \text{ cm}^3$