

MATC9 Ch3.3 Key Concepts 3 Surface Area of a Rectangular Prism Worked Example

Example: Find the surface area of a rectangular prism measuring 24 cm by 18 cm by 12 cm.

Solution: Use the formula $S = 2(lw + wh + lh)$.

$$\begin{aligned} S &= 2(24 \times 18 + 18 \times 12 + 24 \times 12) \\ &= 1872 \text{ cm}^2 \end{aligned}$$

The surface area is 1872 cm².

Practice:

1. Find the amount of cardboard needed to make a box measuring 36 cm by 30 cm by 24 cm.

2. A packing box for air shipment of a motorcycle measures 3.2 m by 1.8 m by 1.4 m. Find the amount of plywood needed to make the box.

Answers: 1. 5328 cm² 2. 25.52 m²