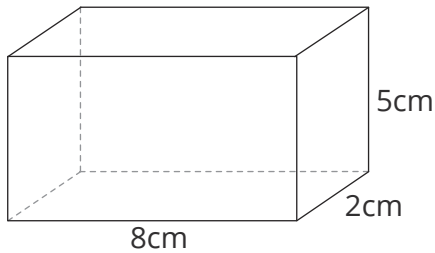


Surface Area of Cubes and Cuboids **Answers**

Your Turn

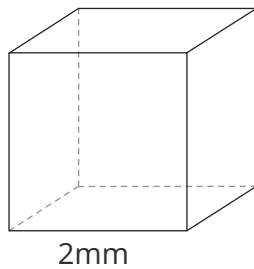
1. For each question, calculate the total surface area.

a.



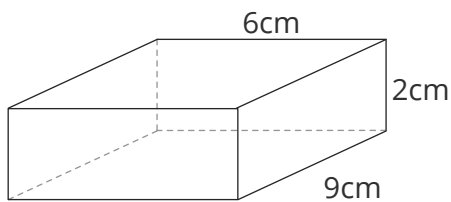
$$\begin{aligned} 8 \times 5 &= 40\text{cm}^2 \\ 8 \times 5 &= 40\text{cm}^2 \\ 8 \times 2 &= 16\text{cm}^2 \\ 8 \times 2 &= 16\text{cm}^2 \\ 5 \times 2 &= 10\text{cm}^2 \\ 5 \times 2 &= 10\text{cm}^2 \\ 40 + 40 + 16 + 16 + 10 + 10 &= 132\text{cm}^2 \end{aligned}$$

b.



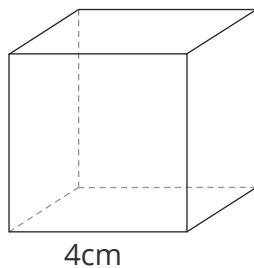
$$2 \times 2 \times 6 = 24\text{mm}^2$$

c.



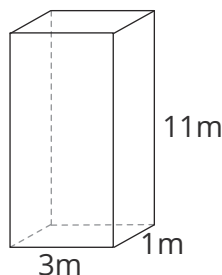
$$\begin{aligned} 6 \times 2 &= 12\text{cm}^2 \\ 6 \times 2 &= 12\text{cm}^2 \\ 9 \times 2 &= 18\text{cm}^2 \\ 9 \times 2 &= 18\text{cm}^2 \\ 6 \times 9 &= 54\text{cm}^2 \\ 6 \times 9 &= 54\text{cm}^2 \\ 12 + 12 + 18 + 18 + 54 + 54 &= 168\text{cm}^2 \end{aligned}$$

d.



$$4 \times 4 \times 6 = 96\text{cm}^2$$

e.



$$\begin{aligned} 3 \times 11 &= 33\text{m}^2 \\ 3 \times 11 &= 33\text{m}^2 \\ 11 \times 1 &= 11\text{m}^2 \\ 11 \times 1 &= 11\text{m}^2 \\ 3 \times 1 &= 3\text{m}^2 \\ 3 \times 1 &= 3\text{m}^2 \\ 33 + 33 + 11 + 11 + 3 + 3 &= 94\text{m}^2 \end{aligned}$$

2. Calculate the total surface area of a cube with a side length of 11cm.

$$11 \times 11 \times 6 = 726\text{cm}^2$$

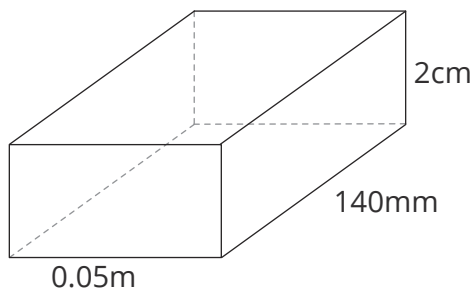
3. Calculate the total surface area of a cube with a side length of $\frac{1}{2}\text{cm}$.

$$0.5 \times 0.5 \times 6 = 1.5\text{cm}^2$$

Or

$$\frac{1}{2} \times \frac{1}{2} \times 6 = \frac{3}{2}\text{cm}^2 \text{ or } 1\frac{1}{2}\text{cm}^2$$

4. Find the total surface area of the shape, giving your answer in square centimetres.



$$140\text{mm} = 14\text{cm}$$

$$0.05\text{m} = 5\text{cm}$$

$$14 \times 2 = 28\text{cm}^2$$

$$14 \times 2 = 28\text{cm}^2$$

$$14 \times 5 = 70\text{cm}^2$$

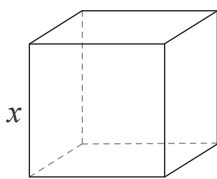
$$14 \times 5 = 70\text{cm}^2$$

$$5 \times 2 = 10\text{cm}^2$$

$$5 \times 2 = 10\text{cm}^2$$

$$28 + 28 + 70 + 70 + 10 + 10 = 216\text{cm}^2$$

5. If the cube has a surface area of 54cm^2 , find the value of x .



$$54 \div 6 = 9\text{cm}^2$$

$$\sqrt{9} = 3$$

$$x = 3\text{cm}$$

Challenge

A cube has a volume of 1000cm^3 . Calculate its total surface area.

$$\sqrt[3]{1000} = 10$$

$$10 \times 10 \times 6 = 600\text{cm}^2$$