Outcome 2 – Calculating Surface Area

Bronze example

Examples... A cube has 6 faces.

6 cm

Calculate the surface area of a cube with sides 6 centimetres.

Calculate the area of 1 side

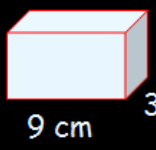
$6 \times 6 = 36\,cm^2$

Multiply by 6

$S.A. = 6 \times 36 = 216\,cm^2$

Silver example

Examples... A cuboid has 6 faces.



4 cm

3 cm

9 cm

Calculate the surface area of this cuboid.

Area of front face = $9 \times 4 = 36\,cm^2$

Area of back face = $9 \times 4 = 36\,cm^2$

Area of top face = $9 \times 3 = 27\,cm^2$

Area of bottom face = $9 \times 3 = 27\,cm^2$

Area of right side = $4 \times 3 = 12\,cm^2$

Area of left side = $4 \times 3 = 12\,cm^2$

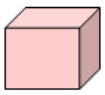
Total Surface Area = $150\,cm^2$

Key Facts/ Formulae:

$S.A. = 6l^2$

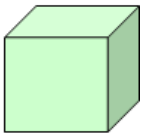
Bronze Questions

1. Calculate the surface area of a cube with sides 10 millimetres.



10 mm

2. Calculate the surface area of a cube with sides 15 centimetres.



15 cm

3. Calculate the surface area of a cube with sides 3·5 metres.

3·5 m

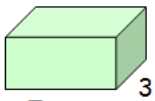
Key Facts/ Formulae:

$S.A. = 2(lb + lh + bh)$

Silver Questions

Calculate the surface areas of the following cuboids...

1.

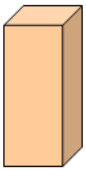


1 mm

3 mm

7 mm

2.

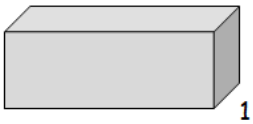


12 cm

2 cm

4 cm

3.



3 m

1 m

10 m

Bronze Answers

1. Surface Area = 600 mm^2
2. Surface Area = 1350 cm^2
3. Surface Area = 73·5 m^2

Silver Answers

1. Surface Area = 62 mm^2
2. Surface Area = 160 cm^2
3. Surface Area = 86 m^2