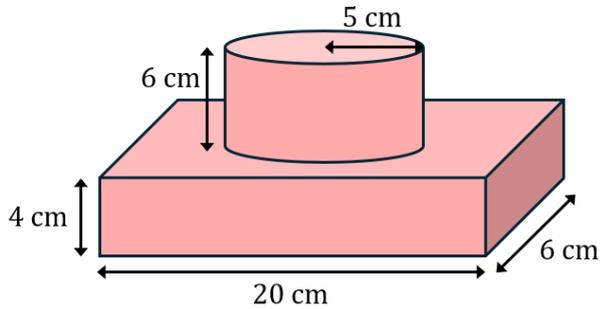


## Volume and Surface Area of Compound Curved Shapes

**(a)**

Find the volume and surface area of the compound shape.

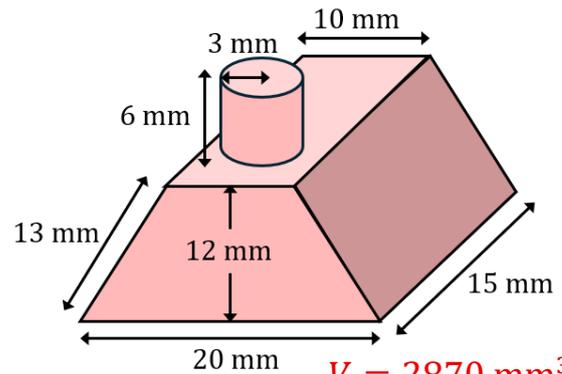


$$V = 951 \text{ cm}^3$$

$$SA = 636 \text{ cm}^2$$

**(b)**

Find the volume and surface area of the compound shape.

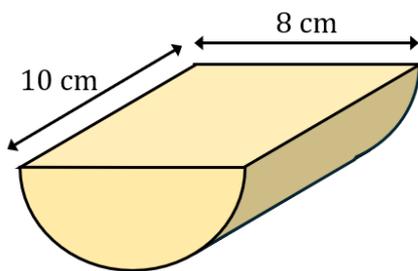


$$V = 2870 \text{ mm}^3$$

$$SA = 1313 \text{ mm}^2$$

**(c)**

Find the volume and surface area of the semi-cylinder shown.

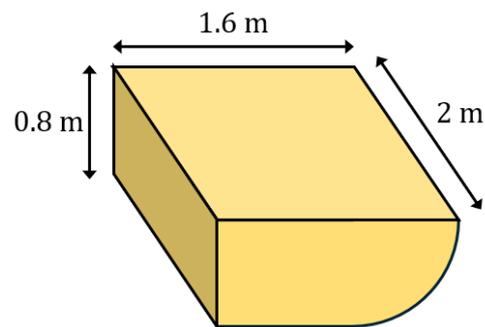


$$V = 80\pi \text{ or } 251 \text{ cm}^3$$

$$SA = 256 \text{ cm}^2$$

**(d)**

Find the volume and surface area of the compound shape shown.

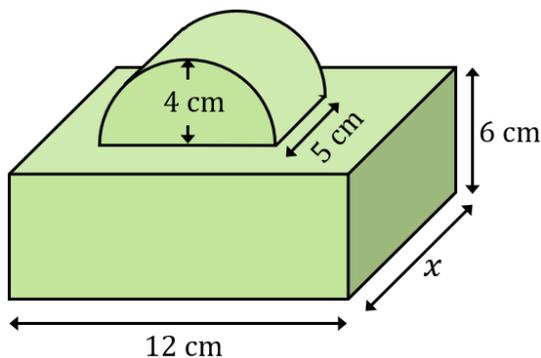


$$V = 2.29 \text{ m}^3$$

$$SA = 8.91 \text{ m}^2$$

**(e)**

The volume of the compound shape is  $630 \text{ cm}^3$ . Find the missing length  $x$  and the total surface area of the shape.

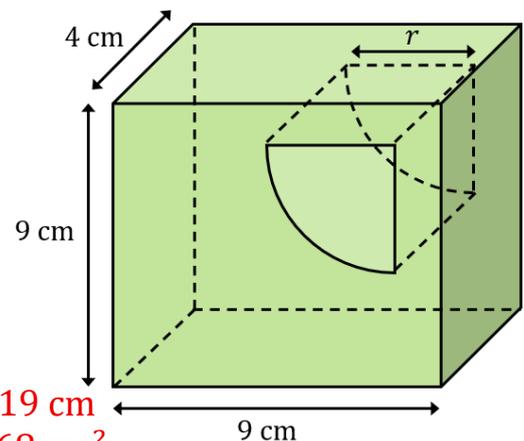


$$L = 7 \text{ cm}$$

$$SA = 469 \text{ cm}^2$$

**(f)**

A quarter cylinder is cut from a cuboid. The volume of the resulting shape is  $292 \text{ cm}^3$ . Find the radius  $r$  and the total surface area of the shape.



$$r = 3.19 \text{ cm}$$

$$SA = 368 \text{ cm}^2$$