


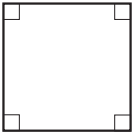
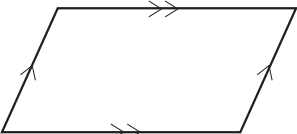
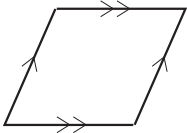
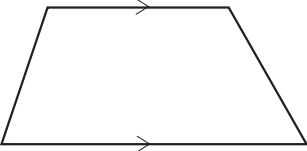
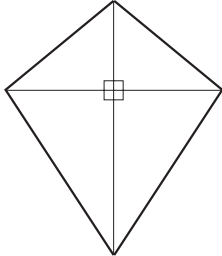
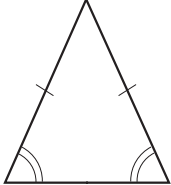
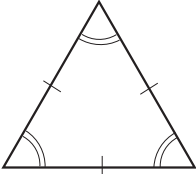
UNIT 9 *Area, Perimeter and Volume***Overhead Slides**

Overhead Slides

- 9.1 2-D Shapes
- 9.2 Identifying 2-D Shapes
- 9.3 Area of Special Shapes
- 9.4 Area of Compound Shape
- 9.5 Perimeter of Semicircle
- 9.6 Perimeter of Compound Shapes
- 9.7 Formulae for Volume and Surface Area
- 9.8 Volume and Surface Area of a Cuboid
- 9.9 Volume and Surface Area of a Cylinder

OS 9.1

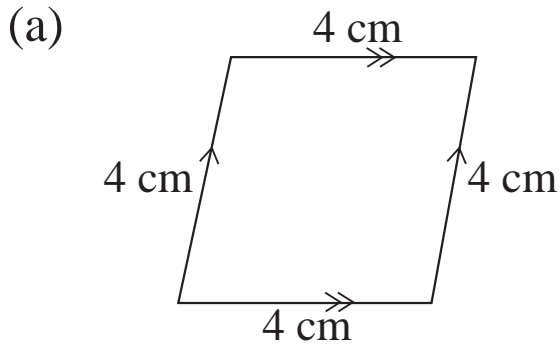
2-D Shapes

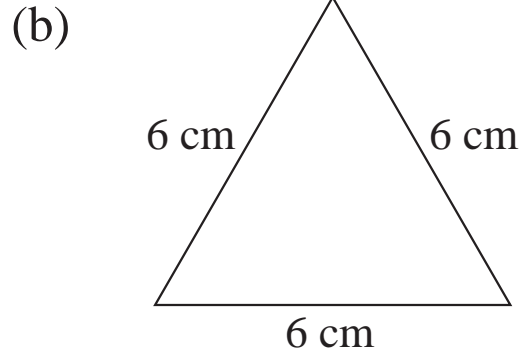
<i>Rectangle</i>		<p>All angles are right angles (90°) Opposite sides have the same length</p>
<i>Square</i>		<p>All the sides have the same length All angles are right angles (90°)</p>
<i>Parallelogram</i>		<p>Opposite sides have the same length</p>
<i>Rhombus</i>		<p>All the sides have the same length Diagonals bisect at right angles</p>
<i>Trapezium</i>		
<i>Kite</i>		<p>Diagonals intersect at right angles</p>
<i>Isosceles Triangle</i>		<p>Two sides have the same length and the angles opposite these two sides are equal</p>
<i>Equilateral Triangle</i>		<p>All angles are 60°</p>

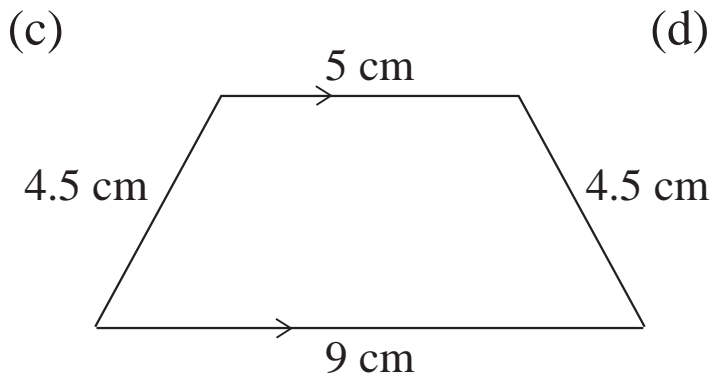
OS 9.2

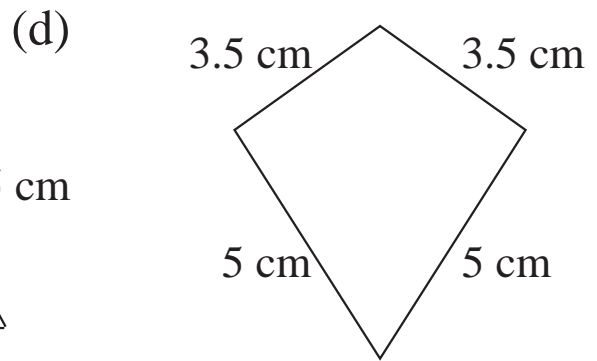
Identifying 2-D Shapes

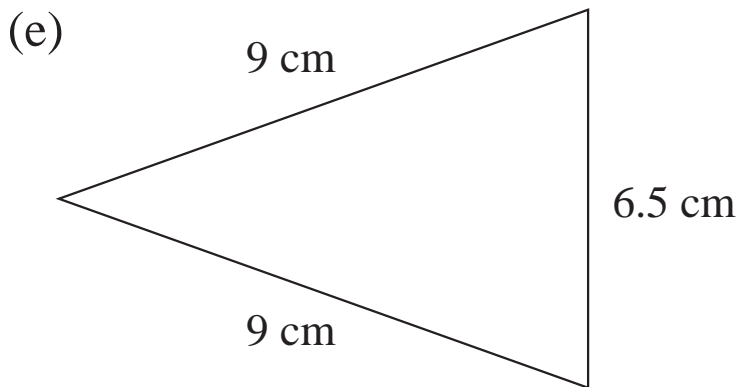
Name each shape and draw in its lines of symmetry.







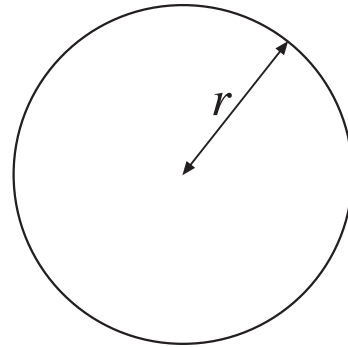




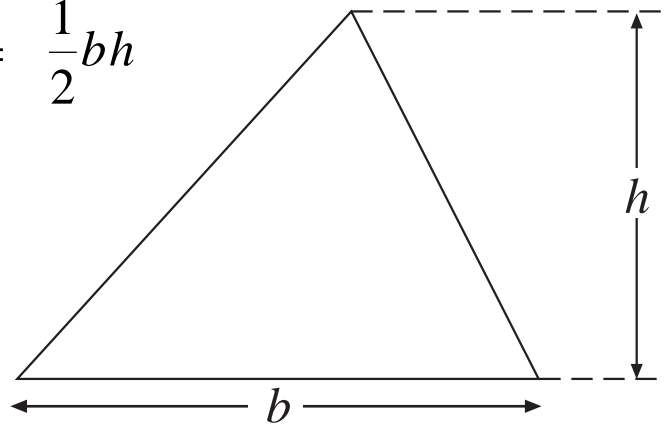
OS 9.3

Area of Special Shapes

$$\text{Area of circle} = \pi r^2$$

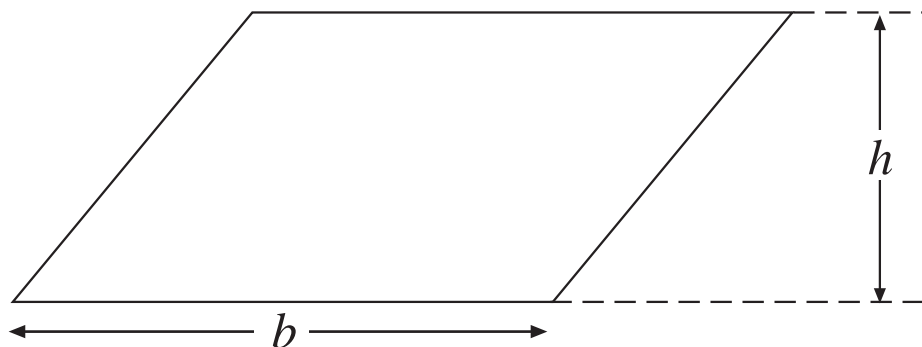


$$\text{Area of triangle} = \frac{1}{2}bh$$



(h is perpendicular height)

$$\text{Area of parallelogram} = bh$$



OS 9.4

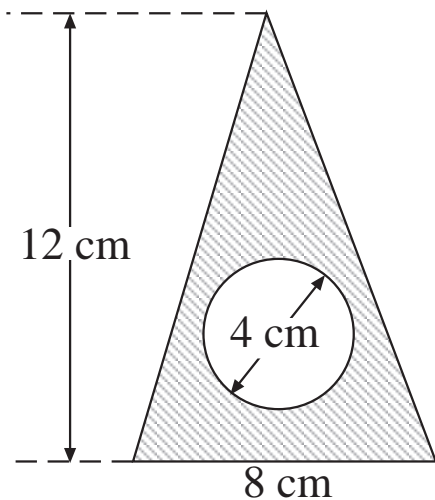
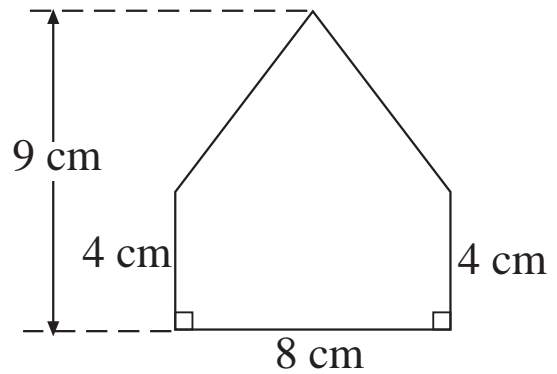
Area of Compound Shapes

Calculate the area of each of these shapes:

Area of rectangle =

Area of triangle =

Total area =



Area of triangle =

Area of circle =

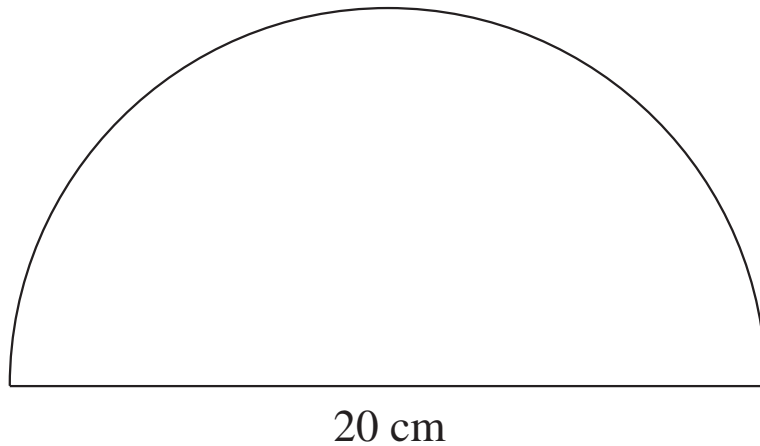
Total area shaded =

OS 9.5

Perimeter of Semicircle

$$\text{Circumference of circle} = 2\pi r$$

Calculate the perimeter of this semicircle:



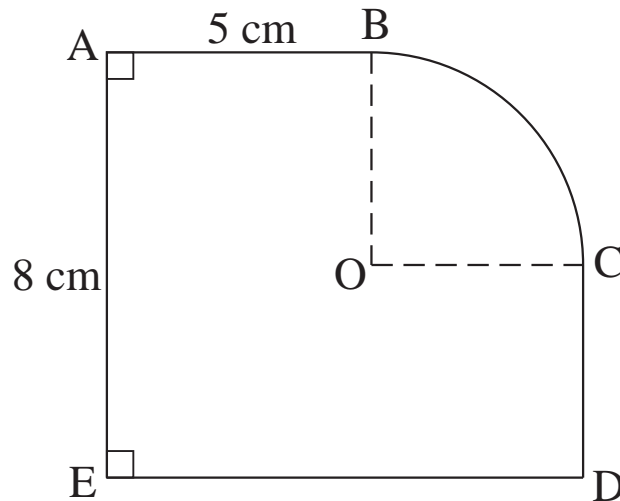
Length of curved part of semicircle =

Total perimeter =

OS 9.6

Perimeter of Compound Shape

Calculate the perimeter of this shape, where OBC is a quarter of a circle of radius 4 cm.



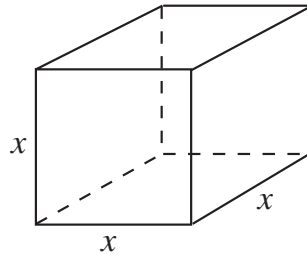
Length of arc BC =

Length of DE =

Total perimeter =

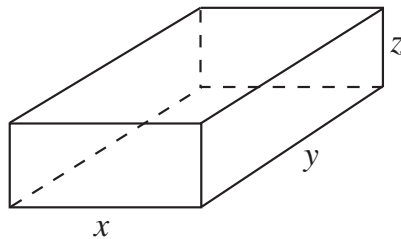
OS 9.7

Formulae for Volume and Surface Area

Cube

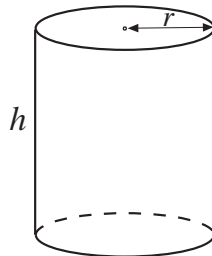
$$\text{Volume} = x^3$$

$$\text{Surface area} = 6x^2$$

Cuboid

$$\text{Volume} = xyz$$

$$\text{Surface area} = 2xy + 2xz + 2yz$$

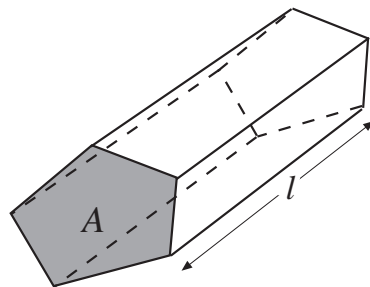
Cylinder

$$\text{Volume} = \pi r^2 h$$

$$\text{Area of curved surface} = 2\pi r h$$

$$\text{Area of each end} = \pi r^2$$

$$\text{Total surface area} = 2\pi r h + 2\pi r^2$$

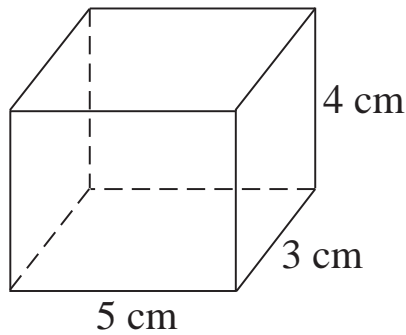
Prism

A prism has a uniform cross-section

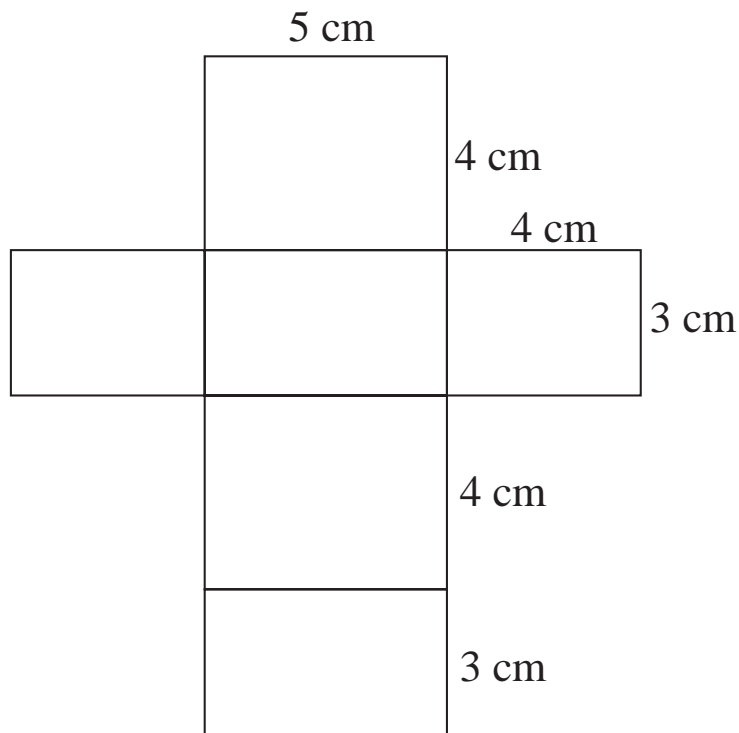
$$\begin{aligned} \text{Volume} &= \text{area of cross-section} \times \text{length} \\ &= Al \end{aligned}$$

OS 9.8

Volume and Surface Area of a Cuboid

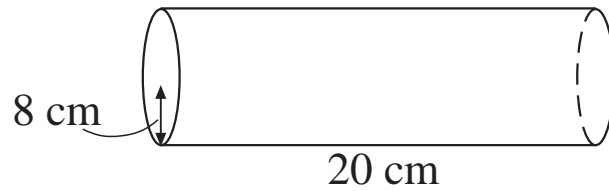


$$\begin{aligned} \text{Volume} &= \square \times \square \times \square \text{ cm}^3 \\ &= \square \text{ cm}^3 \end{aligned}$$



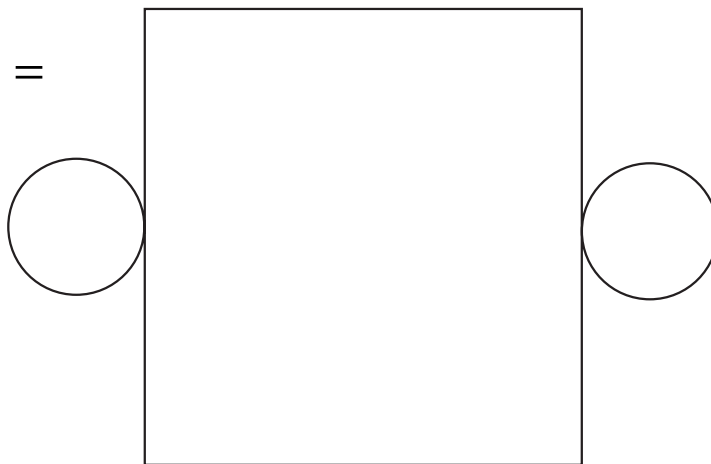
$$\begin{aligned} \text{Surface area} &= 2 \times \square \times \square + 2 \times \square \times \square \\ &\quad + 2 \times \square \times \square \\ &= \square \text{ cm}^2 \end{aligned}$$

OS 9.9

Volume and Surface Area of a Cylinder

$$\text{Volume} = \square \times \square$$

$$= \square \text{ cm}^3$$



$$\text{Area of each circle} =$$

$$\text{Area of rectangle} =$$

$$\text{Total surface area} =$$