

## Check out

You should now be able to ...

✓ Convert between metric and imperial units.	7	1, 2
✓ Understand whether a formula represents a length, area or volume.	8	3
✓ Calculate the perimeter and area of 2D shapes.	8	4 - 7
✓ Understand and use compound measures for speed, density and pressure.	7	8, 9

## Test it

Questions

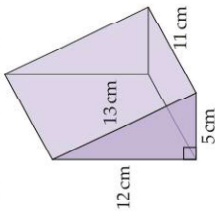
7	1, 2
8	3
8	4 - 7
7	8, 9

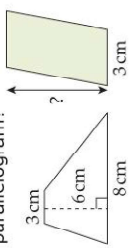


## Language Meaning

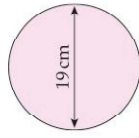
### Example

<b>Dimension</b>	A measurement of length.	A area has 2 dimensions (2D) length $\times$ length
<b>Volume</b>	A 3D measure of space, measured in cubic units.	A cuboid $4\text{ cm} \times 3\text{ cm} \times 2\text{ cm}$ has a volume of $24\text{ cm}^3$
<b>Compound measure</b>	A unit with more than one measure.	The car travelled at $56\text{ km per hour}$
<b>Speed</b>	The rate of change of distance. speed = $\frac{\text{distance travelled}}{\text{time taken}}$	The bullet travelled at $200\text{ m/s}$ (metres per second)
<b>Density</b>	Measures the mass of a substance per unit volume.	The density of water is $1000\text{ kg/m}^3$
<b>Pressure</b>	Measures the force on an object per unit area.	The pressure under an elephant's foot is $80\,000\text{ Newtons/m}^2$

- Convert between these metric measurements.
  - $6.82\text{ m}$  to  $\text{mm}$
  - $14\text{ cl}$  to litres
  - $0.82\text{ kg}$  to  $\text{g}$
  - $0.7\text{ cm}^2$  to  $\text{mm}^2$
  - $8\text{ m}^2$  to  $\text{cm}^2$
  - $12\text{ in}$  to  $\text{cm}$
- Convert these imperial measurements to metric.
  - $8$  pints to litres
  - $22\text{ lb}$  to  $\text{kg}$
  - $120$  miles to  $\text{km}$
  - $25$  inches to  $\text{m}$
- State whether each expression represents a length, an area or a volume.
  - height  $\times$  width  $\div 2$
  - $\frac{1}{4} \times (\text{diameter})^2 \times \text{length}$
  - radius  $\times \pi$
  - $\frac{1}{2} \times \text{base} \times \text{height} + \text{width} \times \text{length}$
- Calculate the surface area of the prism.
 

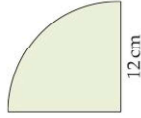
- The parallelogram and the trapezium have the same area. What is the height of the parallelogram?
 

- Calculate
  - the area
  - the circumference of the circle.



Give your answers to 1 dp.

- The diagram shows a quarter of a circle with radius  $12\text{ cm}$ . Calculate
  - the area
  - the perimeter.



Give your answers in terms of  $\pi$ .

- A  $5\text{ mm}$  cube diamond weighs  $0.4\text{ g}$ . Calculate the density of the diamond in  $\text{g/cm}^3$ .

- A car travels at  $85\text{ km/h}$ .
  - How far does it travel in  $42$  minutes?
  - How long does it take to travel  $17\text{ km}$ ?

## What next?

1 - 4	Your knowledge of this topic is still developing. To improve look at Formative test: 3C-2; MyMaths: 1083, 1088, 1096, 1108, 1121, 1128, 1129, 1191, 1246, 1329, 1968 and 1970
5 - 7	You are gaining a secure knowledge of this topic. To improve look at Invisipen: 315, 327, 333, 334, 335 and 353
8 - 9	You have mastered this topic. Well done, you are ready to progress!

Score