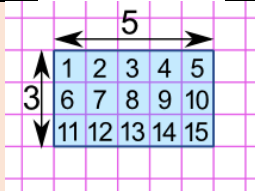
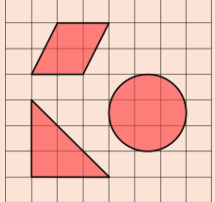
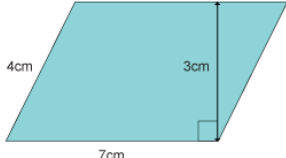
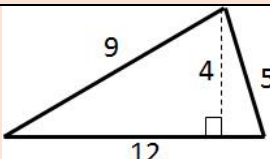
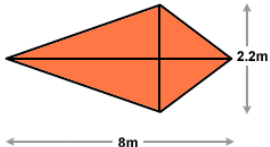
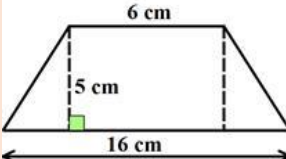
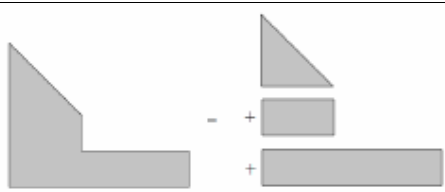
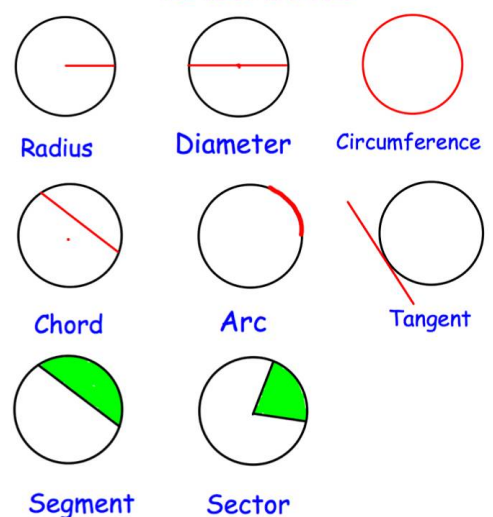
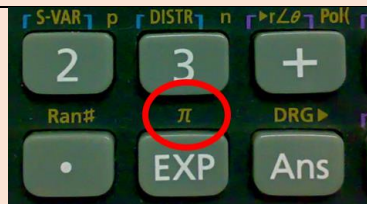
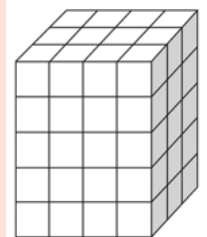
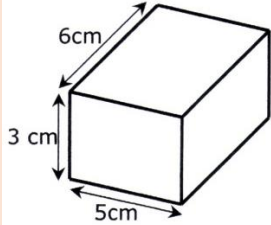
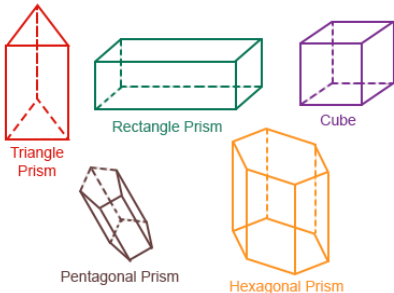
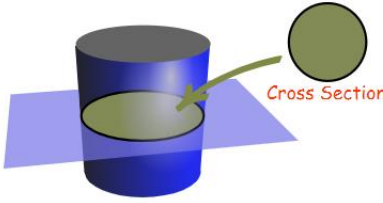
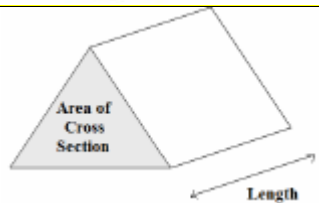
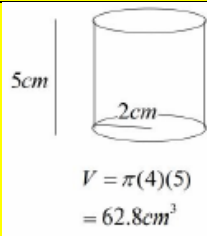
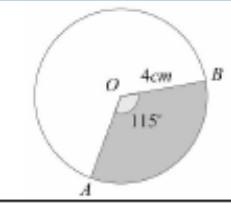
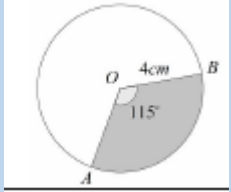
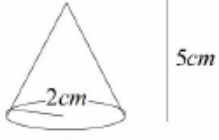
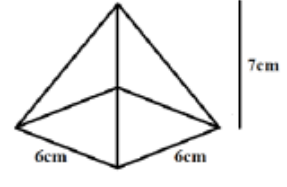


Topic: Measures

Topic/Skill	Definition/Tips	Example
Read from scales	Read from scales to a suitable degree of accuracy	
Perimeter and Area by counting	Count the squares to find area and perimeter of a rectilinear shape.	
Perimeter	The total distance around the outside of a shape. Units include: <i>mm, cm, m</i> etc.	 $P = 8 + 5 + 8 + 5 = 26\text{cm}$
Area	The amount of space inside a shape. Units include: <i>mm², cm², m²</i>	
Area of a Rectangle	Length x Width	 $A = 36\text{cm}^2$
Area of a Parallelogram	Base x Perpendicular Height (Not the slant height).	 $A = 21\text{cm}^2$
Area of a Triangle	$\frac{1}{2} \times \text{Base} \times \text{Height}$	 $A = 24\text{cm}^2$
Area of a Kite	Split in to two triangles and use the method above.	 $A = 8.8\text{m}^2$
Area of a Trapezium	$\frac{(a + b)}{2} \times h$	 $A = 55\text{cm}^2$

Compound Shape	A shape made up of a combination of other known shapes put together.	
Parts of a Circle	Radius – the distance from the centre of a circle to the edge Diameter – the total distance across the width of a circle through the centre. Circumference – the total distance around the outside of a circle Chord – a straight line whose end points lie on a circle Tangent – a straight line which touches a circle at exactly one point Arc – a part of the circumference of a circle Sector – the region of a circle enclosed by two radii and their intercepted arc Segment – the region bounded by a chord and the arc created by the chord	Parts of a Circle 
Area of a Circle	$A = \pi r^2$ which means 'pi x radius squared'.	If the radius was 5cm, then: $A = \pi \times 5^2 = 78.5\text{cm}^2$
Circumference of a Circle	$C = \pi d$ which means 'pi x diameter'	If the radius was 5cm, then: $C = \pi \times 10 = 31.4\text{cm}$
π ('pi')	Pi is the circumference of a circle divided by the diameter. $\pi \approx 3.14$	
Volume	Volume is a measure of the amount of space inside a solid shape. Units: $\text{mm}^3, \text{cm}^3, \text{m}^3$ etc.	
Volume of a Cube/Cuboid	$V = \text{Length} \times \text{Width} \times \text{Height}$ $V = L \times W \times H$ You can also use the Volume of a Prism formula for a cube/cuboid.	 volume = $6 \times 5 \times 3$ = 90 cm^3

Prism	A prism is a 3D shape whose cross section is the same throughout.	
Metric System	A system of measures based on: - the metre for length - the kilogram for mass - the second for time Length: mm, cm, m, km Mass: mg, g, kg Volume: ml, cl, l	$1 \text{ kilometre} = 1000 \text{ metres}$ $1 \text{ metre} = 100 \text{ centimetres}$ $1 \text{ centimetre} = 10 \text{ millimetres}$ $1 \text{ kilogram} = 1000 \text{ grams}$ $1 \text{ litre} = 1000 \text{ ml}$
Cross Section	The cross section is the shape that continues all the way through the prism.	
Volume of a Prism	$V = \text{Area of Cross Section} \times \text{Length}$ $V = A \times L$	
Volume of a Cylinder	$V = \pi r^2 h$	
Arc Length of a Sector	The arc length is part of the circumference. Take the angle given as a fraction over 360° and multiply by the circumference .	$\text{Arc Length} = \frac{115}{360} \times \pi \times 8 = 8.03 \text{ cm}$ 
Area of a Sector	The area of a sector is part of the total area. Take the angle given as a fraction over 360° and multiply by the area .	$\text{Area} = \frac{115}{360} \times \pi \times 4^2 = 16.1 \text{ cm}^2$ 

Volume of a Cone	$V = \frac{1}{3}\pi r^2 h$	 $V = \frac{1}{3}\pi(4)(5)$ $= 20.9cm^3$
Volume of a Pyramid	$Volume = \frac{1}{3}Bh$ where B = area of the base	 $V = \frac{1}{3} \times 6 \times 6 \times 7 = 84cm^3$
Volume of a Sphere	$V = \frac{4}{3}\pi r^3$ Look out for hemispheres – just halve the volume of a sphere.	Find the volume of a sphere with diameter 10cm. $V = \frac{4}{3}\pi(5)^3 = \frac{500\pi}{3}cm^3$
Surface Area of a Sphere	$SA = 4\pi r^2$	Find the surface area of a sphere with diameter 12cm. $SA = 4\pi(6)^2 = 144\pi cm^2$

Where else is the measures topic used: Algebra Angles Ratio and Proportion	Links to other subjects:
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