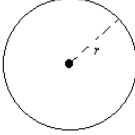
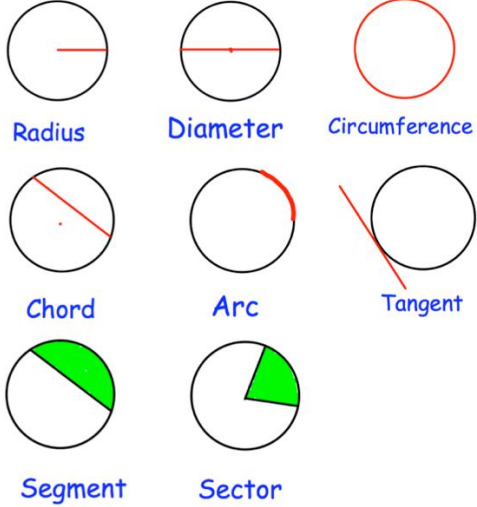
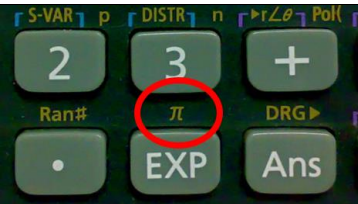
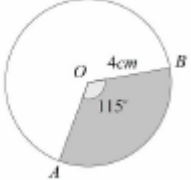
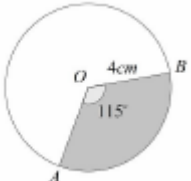
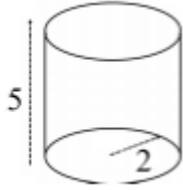
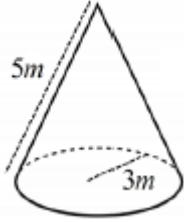


Core Knowledge

Topic/Skill	Definition/Tips	Example
1. Circle	A circle is the locus of all points equidistant from a central point.	
2. Parts of a Circle	<p>Radius – the distance from the centre of a circle to the edge</p> <p>Diameter – the total distance across the width of a circle through the centre.</p> <p>Circumference – the total distance around the outside of a circle</p> <p>Chord – a straight line whose end points lie on a circle</p> <p>Tangent – a straight line which touches a circle at exactly one point</p> <p>Arc – a part of the circumference of a circle</p> <p>Sector – the region of a circle enclosed by two radii and their intercepted arc</p> <p>Segment – the region bounded by a chord and the arc created by the chord</p>	<p>Parts of a Circle</p> 
3. Area of a Circle	$A = \pi r^2$ which means 'pi x radius squared'.	If the radius was 5cm, then: $A = \pi \times 5^2 = 78.5cm^2$
4. Circumference of a Circle	$C = \pi d$ which means 'pi x diameter'	If the radius was 5cm, then: $C = \pi \times 10 = 31.4cm$
5. π ('pi')	Pi is the circumference of a circle divided by the diameter. $\pi \approx 3.14$	
6. 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 .	<p>Arc Length = $\frac{115}{360} \times \pi \times 8 = 8.03cm$</p> 
7. 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 .	<p>Area = $\frac{115}{360} \times \pi \times 4^2 = 16.1cm^2$</p> 

Core Knowledge

<p>8. Surface Area of a Cylinder</p>	<p>Curved Surface Area = πdh or $2\pi rh$</p> <p>Total SA = $2\pi r^2 + \pi dh$ or $2\pi r^2 + 2\pi rh$</p>	 <p>$Total SA = 2\pi(2)^2 + \pi(4)(5) = 28\pi$</p>
<p>9. Surface Area of a Cone</p>	<p>Curved Surface Area = πrl where $l = \text{slant height}$</p> <p>Total SA = $\pi rl + \pi r^2$</p> <p>You may need to use Pythagoras' Theorem to find the slant height</p>	 <p>$Total SA = \pi(3)(5) + \pi(3)^2 = 24\pi$</p>
<p>10. Surface Area of a Sphere</p>	<p>$SA = 4\pi r^2$</p> <p>Look out for hemispheres – halve the SA of a sphere and add on a circle (πr^2)</p>	<p>Find the surface area of a sphere with radius 3cm.</p> <p>$SA = 4\pi(3)^2 = 36\pi cm^2$</p>

Links to volume, substitution into formulae, leaving your answers in multiples of π , how to use a calculator