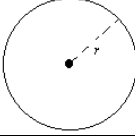
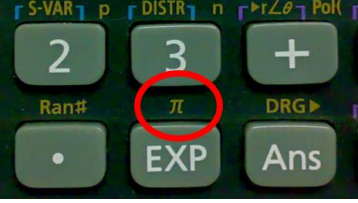
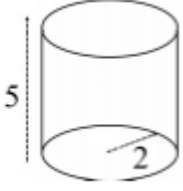
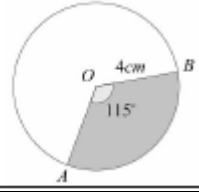
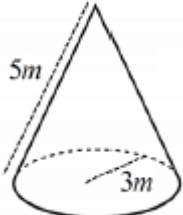
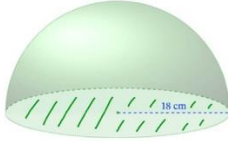


Core Knowledge

Topic/Skill	Definition/Tips	Example
1. Circle	A circle is the locus of all points equidistant from a central point.	
2. Area of a Circle	$A = \pi r^2$ which means 'pi x radius squared'.	If the radius was 5cm, then: $A = \pi \times 5^2 = 78.5cm^2$
3. Circumference of a Circle	$C = \pi d$ which means 'pi x diameter'	If the radius was 5cm, then: $C = \pi \times 10 = 31.4cm$
4. π ('pi')	Pi is the circumference of a circle divided by the diameter. $\pi \approx 3.14$	
5. Surface area of a cylinder	The total area of faces on a shape Curved Surface Area only = πdh or $2\pi rh$ Total SA = $2\pi r^2 + \pi dh$ or $2\pi r^2 + 2\pi rh$	
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 .	Area = $\frac{115}{360} \times \pi \times 4^2 = 16.1cm^2$ Total SA = $2\pi(2)^2 + \pi(4)(5) = 28\pi$ 
8. Surface Area of a Cone	Curved Surface Area = πrl where $l =$ <i>slant height</i> Total SA = $\pi rl + \pi r^2$ You may need to use Pythagoras' Theorem to find the slant height	 Total SA = $\pi(3)(5) + \pi(3)^2 = 24\pi$
9. Surface Area of a Sphere	Total SA = $4\pi r^2$	Find the surface area of a sphere with radius 3cm. $SA = 4\pi(3)^2 = 36\pi cm^2$

Core Knowledge

	<p>Look out for hemispheres, halve the SA of a sphere and add on a circle (πr^2)</p>	<p>Find the total surface area of the hemisphere. Round the answer to the nearest tenth.</p>  <p>$SA_{\text{sphere}} = 4\pi r^2$ $SA_{\text{hemi}} = 2\pi r^2 + \pi r^2$ $= 3\pi r^2$ $= (3 \times \pi \times 18^2)$ $= 972\pi$ $= 3053.6280\dots$</p> <p>3053.6 cm^2</p>
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Links to volume, substitution into formulae, leaving your answers in multiples of π , how to use a calculator