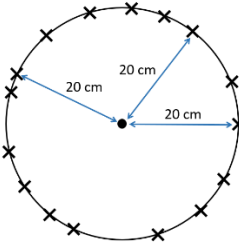
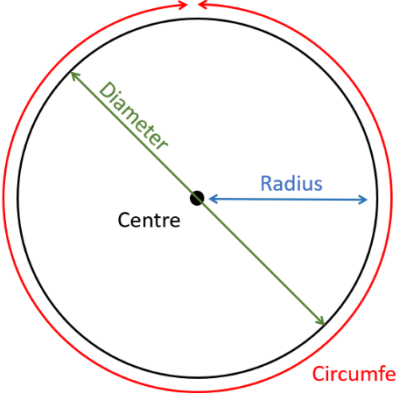


'Area and circumference of circles'

The Knowledge for Progression:

- To identify the parts of a circle; radius, diameter and circumference
- To know that the radius is the distance from the centre of the circle to its circumference
- To know that the diameter is the distance from one point of the circumference to another point going through the centre
- To know that the circumference is the perimeter of the circle
- To know that the diameter is twice the radius
- To know that the radius is half of the diameter
- To know that the formula to calculate the area of a circle is $A = \pi \times radius^2$
- To know that the formula to calculate the circumference of a circle is $C = \pi \times diameter$

Speak Like a Mathematician

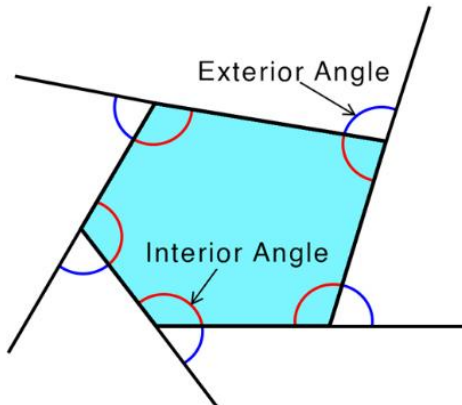
Key Word	Dual Coding	Definition
Circle		A 2D shape where all points are equidistant from the centre
Radius		The distance from the centre of the circle to the circumference
Diameter		The distance from one point of the circumference to another point going through the centre
Circumference		The perimeter of the circle

'Angles in polygons'

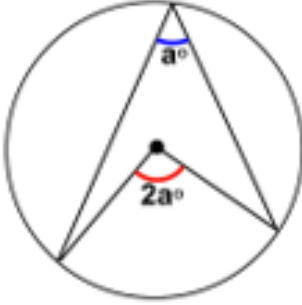
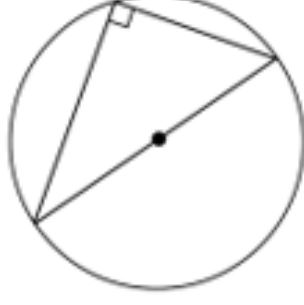
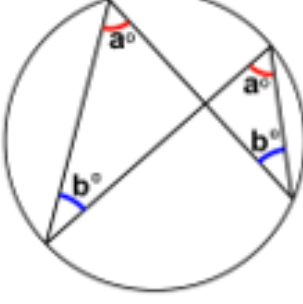
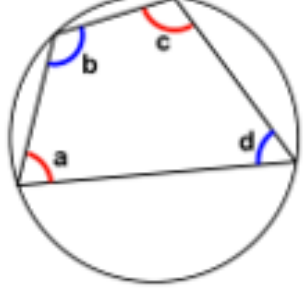
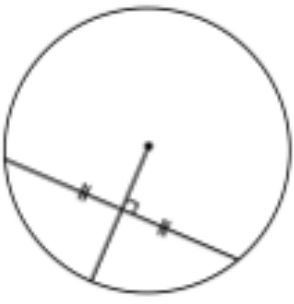
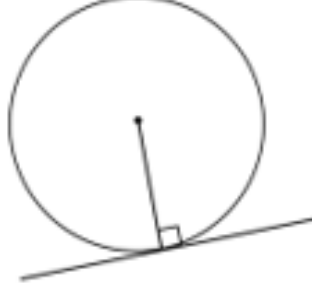
The Knowledge for Progression:

- To know that the sum of interior angles is calculated by $(n-2) \times 180^\circ$, where n is the number of sides of the polygon
- To know that sum of the interior angle and the exterior angle equal 180°

Speak Like a Mathematician

Key Word	Dual Coding	Definition
Interior angle	 A diagram of a quadrilateral with a light blue fill. At each of its four vertices, an interior angle is marked with a red arc and labeled 'Interior Angle' with an arrow. At each vertex, an exterior angle is marked with a blue arc and labeled 'Exterior Angle' with an arrow. The exterior angles are formed by extending one side of the polygon.	The angle that lies within a polygon
Exterior angle		An angle formed outside the polygon

Circle Theorems

<p>The angle at the centre of a circle is twice the angle at the circumference of the circle from the same arc.</p>	<p>The angle formed in a semicircle is always a right angle.</p>
	
<p>Angles from the same arc in the same segment are equal.</p>	<p>Opposite angles of a cyclic quadrilateral add up to 180°.</p>
	
<p>The perpendicular line from the centre of a circle to a chord, bisects the chord.</p>	<p>The angle between a tangent and the radius, at the point where the tangent touches the circle, is a right angle.</p>
	
<p>Two tangents drawn from a point to a circle are equal.</p>	<p>The angle between a tangent and a chord is equal to the angle at the circumference in the alternate segment.</p>
