HIGHER GCSE UNIT SUMMARY: UNIT 16: Circle theorems and circle geometry

16a) **Circle theorems**

Unit Description	Taught	Revision Priority
Recall the definition of a circle and identify (name) and draw parts of a circle, including sector, tangent, chord, segment;		
Prove and use the facts that: the angle subtended by an arc at the centre of a circle is twice the angle subtended at any point on the circumference; the angle in a semicircle is a right angle; the perpendicular from the centre of a circle to a chord bisects the chord; angles in the same segment are equal; alternate segment theorem; opposite angles of a cyclic quadrilateral sum to 180°;		
Understand and use the fact that the tangent at any point on a circle is perpendicular to the radius at that point;		
Find and give reasons for missing angles on diagrams using: circle theorems; isosceles triangles (radius properties) in circles; the fact that the angle between a tangent and radius is 90°; the fact that tangents from an external point are equal in length.		

16b) **Circle geometry**

Unit Description	Taught	Revision Priority
Select and apply construction techniques and understanding of loci to draw graphs based on circles and perpendiculars of lines;		
Find the equation of a tangent to a circle at a given point, by: finding the gradient of the radius that meets the circle at that point (circles all centre the origin); finding the gradient of the tangent perpendicular to it; using the given point;		
Recognise and construct the graph of a circle using $x^2 + y^2 = r^2$ for radius r centred at the origin of coordinates.		