Year 10 Objective List – Higher   HT2

Circle Theorems

Objective	Sparx Task	
1.Recall circle theorems including:		
- angle in a semi circle is a right angle		
- a perpendicular line from the centre will bisect the chord.		
- angles in the same segment are equal	U251	
- opposite angles in a cyclic quadrilateral add up to 180	U251	
- angle subtended at the centre is twice the angles subtended at the circumference	U459	
They should also be aware that a triangle made within a circle with two radii, will be isosceles.		
2.Apply the above theorems to solve problems with missing angles	U808	
3.Recall the other theorems including:		
- alternate segment theorem	U130	
- tangent will meet a radius at 90	U489	
- tangents that form an external point will be equal in length.	U489	
4.Apply all circle theorems to find missing angle. Give reasoning throughout	U951	
5.Proof with circle theorems	U807	
6.Recognise the equation of a circle centred on the origin and be able to graph it.	U567	
7.Find the equation of a tangent by using gradient of the radius	U567	
8.Find the equation of a tangent by understanding perpendicular lines and gradients.	U898	

Similarity & Congruence:

Objective	Sparx Task	
Understand and use SSS, ASA, SAS and RHS conditions to prove congruence and verify constructions	U790	
Solve problems by proving congruence	U887	

Understand similarity of triangles and other shapes. Use this to make inferences	U110	
Prove similarity by showing that corresponding angles are equal or side lengths are in the same ratio	U551	
Use formal geometric proof for the similarity of triangles	U887	
Understand and apply relationships between linear, area and volume scale factor of mathematically similar solids	U110	