Maths- Y10F

HALF TERM 3 JAN-FEB	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	
TOPIC (S)	Trigonometry (recap Pythagoras' Theorem)	Trigonometry	Further Perimeter and Area	Further Perimeter and Area	Further Circumference and Area	Further Circumference and Area	
Knowledge & Skills development	— see below						

Knowledge & Skills development

<u>Trigonometry</u>

- know and use the trigonometric ratios:
- $\sin\theta$ = opposite/hypotenuse
- $\cos\theta$ = adjacent/hypotenuse
- $\tan\theta$ = opposite/adjacent
- apply them to find angles and lengths in right-angled triangles in two dimensional figures
- compare lengths using ratio notation

<u>Further Perimeter and Area</u>

- identify properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres
- calculate the perimeter of a 2D shape and composite shapes
- know and apply formulae to calculate area of:
    - triangles
    - parallelograms
    - trapezia
- calculate the area composite shapes
- find the surface area of pyramids and composite solids

<u>Further Circumference and Area</u>

- identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference, tangent, arc, sector and segment
- know the formulae:
    - circumference of a circle = $2\pi r = \pi d$
    - area of a circle = πr^2
- calculate the perimeters of 2D shapes, including circles and composite shapes
- calculate areas of circles and composite shapes
- calculate the surface area of spheres, cones and composite solids
- calculate arc lengths, angles and areas of sectors of circles
- calculate exactly with multiples of π

Assessment / Feedback Opportunities	Topic assessments	Self-assessment sheets	Homework (written and online)	Formative teacher assessment - verbal	Retrieval practice	
Cultural Capital	Use of Trigonometry in real life situations Application of area and perimeter in problem solving (material required)					
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	Willingness to participate in, and respond to mathematical opportunities. Use of social skills in different contexts, including working and socialising with pupils from different religious, ethnic and socio-economic backgrounds.					
Reading opportunities	What's the point of maths? Murderous Maths, Marvellous Maths, Launch a rocket into space, Humble Pi.					
Key Vocabulary	Pythagoras, Theorem, Hypotenuse, Opposite, Adjacent, Square, Trigonometry, Sine, Cosine, Tangent, Right-angled, Solid, Net, Faces, Edges, Vertices, Area, Perimeter, Formula, Perpendicular, Compound, Circumference, Radius, Diameter, Tangent, Chord, Sector, Segment, Pi					
Digital Literacy	Geogebra					
Careers	Engineering, Business, Architecture, Building, Gaming.					