Maths Foundation

Year 10

KS4
Curriculum Details

Modules	Content	Homework	Parent / Carer Support
Autumn Term:	Calculating: Working with Standard index form Use of calculator and functions Inequality notation Rounding numbers and applying limits of accuracy (bounds) Visualising and constructing: Constructions using compasses Loci problems Properties of 2D shapes Plans and elevations Calculating space: Circle definitions and theorems Arc lengths, area of sectors and segments Surface area of right prisms Calculations with multiples of PI Pythagoras' theorem Conjecturing: Congruency criteria for triangles Angle facts Properties of quadrilaterals Pythagorean triples Construction of mathematical proof Algebraic proficiency: Interpret and apply algebraic expressions, equations, identities and formulae Manipulate and simplify expressions through collecting like term, multiplication, expanding and factorising brackets Algebraic proficiency 2: Linear graphs (y=mx+c) Find the equation of a line from 2 points Interpret gradient Recognise, sketch and interpret key graphs including quadratic, cubic and reciprocal graphs	Weekly homework tasks set on Hegarty maths - students should watch the video in full and make notes in their homework book before attempting the quiz	Check that students have watched the video prior to attempting the quiz. If they are still struggling there are 'Building blocks' on prerequisite skills at the bottom of the page. Students will be assessed each half term on cumulative topics in a mini exam style. Cheat sheets can be produced and used in these assessments and should be no more than one side of A4. Students can aid their revision by completing weekly Memri or Fix up 5 tasks on Hegarty maths.
Spring Term:	Solving equations and inequalities 1: Understand concepts and vocabulary of inequalities Solve linear inequalities Represent the solution set to an inequality on a number line Use a number line to find a set of values that are true for 2 inequalities Pattern sniffing: Recognise arithmetic, quadratic, geometric and Fibonacci sequences Identify term to term rules and find missing terms in a sequence Generate the nth term rule of an arithmetic sequence Use the nth term rule to generate arithmetic and quadratic sequences Proportional reasoning: Direct and inverse proportion Concepts of congruency and similarity Compound units		

Content

Proportional reasoning:
Direct and inverse proportion
Concepts of congruency and similarity
Compound units

Understanding risk:
Probability of independent and dependant events
Enumerate sets and combinations using tree diagrams
Interpret and use Relative frequency and Theoretical probabilities

Solving equations and inequalities 2 :
Solve linear simultaneous equations
Derive equations and solve them
Find solutions using a graph

Analysing Statistics:
Interpret Scatter graphs, using a line of best fit to make estimations Understand correlation and causation.
Calculate averages from a frequency table including grouped data

Summer Term:

Angles:
Calculate angles in polygons
Calculate angles in parallel lines
Apply combined rules in geometrical problems

Communicating and reasoning:
Use basic congruence criteria to identify and prove congruent triangles Prove a triangle has a right angle

Investigating properties of shapes:
Use trigonometric ratios to find missing sides and angles in 2D right-angled triangles
Know the exact values for sin, cos and tan ratios for the angles, 0, 30, 45, 60 and 90 degrees

Transformations:
Describe and construct reflections, rotations and translations
Describe and construct Enlargements including with fractional scale factors

Transformations 2:
Use and interpret visual representations of vectors
Apply addition, subtraction and multiplication by scalar to column vectors.

Solving Algebraically 3:
Approximate solutions of a quadratic equation using its graph
Solve quadratic equations through factorisation where a =1

Calculating space:
calculate the surface area and volume of 3D shapes including spheres, cones and pyramids

Exploring fractions, decimals and percentages:
Calculated repeated percentage change
Recognise when simple interest and compound interest calculations are needed
Set up, solve and interpret growth and decay problems

Maths Foundation
Year 11
Foundation

KS4
Curriculum Details

Content	Homework	Parent / Carer Support
Over the course of year 11 each group will follow a bespoke scheme of work which is planned through analysis of the class mock examinations, this will involve revision or extension as appropriate and key skills to access exam level questions. Students will be assessed each half term on non calculator skills. At December and Easter they will sit full sets of exam papers as mock exams. Cheat sheets will not be allowed to be used in any year 11 assessments.	All students will be set a weekly examination style booklet. Class teachers will also set Hegarty tasks on specific topics.	Check students are organised on what day to bring their exam paper homeworks. Are they using revision guides to help if they do not know a topic? Students can aid their revision through completing regular Memri or Fix up 5 tasks on Hegarty.

Extra parental support:
Spelling tests of key words
Test times tables and mental arithmetic.
Ask students to explain HOW they have worked something out.
Make posters of important formulae and facts and test recall of these.
All students should have the latest Casio calculator (available in most supermarkets and stationers) and will ideally have a maths equipment set including a protractor and a pair of compasses.

Study Guides Available:

ww.hegartytmaths.com

Additional website for revision: www.onmaths.com

OCR CGP revision guide - £5.50