MATHEMATICS

Year 10 Curriculum road map

AUTUMN TERM

1. WORKING WITH CIRCLES, 2. CONSTRUCTIONS, 3. CONGRUENCE, SIMILARITY & ENLARGEMENT,

LABEL CIRCLES, CALCULATE ARC LENGTHS & AREAS OF SECTORS AND FIND THE VOLUME & SURFACE AREA OF CYLINDERS, SPHERES & CONES.
ENLARGE SHAPES, IDENTIFYING SIMILARITY, TO CALCULATE MISSING SIDES.
UNDERSTAND CONGRUENCE, IN PARTICULAR, CONGRUENT TRIANGLES.
LEARN HOW TO USE A COMPASS TO CONSTRUCT LOCI & BISECTORS.
CHALLENGE: *SOLVE AREA & VOLUME PROBLEMS INVOLVING SIMILAR SHAPES, ENLARGE A SHAPE BY A NEGATIVE SCALE FACTOR, PROVE TRIANGLE CONGRUENCE.*

HIGHER **FOUNDATION**

HT1

AUTUMN TERM

4. PYTHAGORAS & TRIGONOMETRY, 5. REPRESENTING LINEAR EQUATIONS & INEQUALITIES

WORK WITH RIGHT-ANGLED TRIANGLES, LABELLING THE HYPOTENUSE AND CALCULATING MISSING SIDES.
EXPLORE THE SINE, COSINE & TANGENT RATIO TO FIND MISSING LENGTHS & ANGLES, INCLUDING LOOKING AT EXACT VALUES.
FORM & SOLVE EQUATIONS & INEQUALITIES
CHALLENGE: *USE PYTHAGORAS & TRIGONOMETRY IN 3D, USE SINE/COSINE RULE & AREA OF TRIANGLE FORMULAE, REPRESENT INEQUALITIES ON GRAPHS*

HIGHER **FOUNDATION**

HT2

SPRING TERM

6. RATIO & FRACTIONS, 7. ANGLES & BEARINGS

USE & INTERPRET RATIOS, SHARING WHEN GIVEN THE TOTAL, ONE PART OR THE DIFFERENCE.
COMBINE RATIOS AND LINK WITH SCALES & ALGEBRA
READ, MEASURE AND REPRESENT BEARINGS.
CHALLENGE: *RATIO IN AREA & VOLUME PROBLEMS*

HIGHER **FOUNDATION**

HT3

SPRING TERM

8. SIMULTANEOUS EQUATIONS, 9. NON-CALCULATOR METHODS

SOLVE SIMULTANEOUS EQUATIONS USING SUBSTITUTION, ELIMINATION AND GRAPHS.
DEVELOP CONFIDENCE IN CALCULATIONS INVOLVING FRACTIONS AND DECIMALS WITHOUT USE OF A CALCULATOR.
CHALLENGE: *UNDERSTAND, USE AND CALCULATE WITH SURDS, WORK WITH UPPER & LOWER BOUNDS.*

HIGHER **FOUNDATION**

HT4

SUMMER TERM

10. TYPES OF NUMBER & SEQUENCES, 11. PROBABILITY

RECOGNISE TYPES OF NUMBER TO HELP CALCULATE THE HCF & LCM.
DESCRIBE & CONTINUE SEQUENCES, FINDING THE NTH TERM
WORK WITH LISTS, TABLES , TREES & OTHER DIAGRAMS TO CALCULATE THE LIKELIHOOD OF SINGLE & MULTIPLE EVENTS OCCURRING.
CHALLENGE: *CONTINUE SEQUENCES INVOLVING SURDS, FIND THE NTH TERM FOR QUADRATIC SEQUENCES, USE THE PRODUCT RULE, CONSTRUCT & INTERPRET CONDITIONAL PROBABILITIES*

HIGHER **FOUNDATION**

HT5

SUMMER TERM

12. VECTORS, 13. COLLECTING, REPRESENTING & INTERPRETING DATA

DRAW, READ AND UNDERSTAND VECTORS.
CONSTRUCT & INTERPRET FREQUENCY TABLES, FREQUENCY POLYGONS, BAR CHARTS, PIE CHARTS AND LINE CHARTS.
COMPARE DISTRIBUTIONS AND CRITICISE CHARTS.
CHALLENGE: *EXPLORE VECTORS JOURNEYS, PARALLEL VECTORS & COLLINEAR POINTS, CONSTRUCT & INTERPRET HISTOGRAMS, CUMULATIVE FREQUENCY DIAGRAMS & BOX PLOTS.*

HIGHER **FOUNDATION**

HT6