YEAR 11 HALF TERM 1 MATHEMATICS SETS 5 - 6 LEARNING PROGRAMME

Love God
Serve others
Work hard
Value all

Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Quadratic Equations and Graphs	Simplify and manipulate algebraic expressions by expanding products of two binomials and factorising quadratic expressions, including the difference of two squares Identify and interpret roots, intercepts, turning points of quadratic functions graphically, deduce roots algebraically Recognise, plot, sketch and interpret graphs of quadratic functions Solve quadratic equations algebraically and graphically		Simplify and manipulate algebraic expressions by expanding products of two binomials and factorising quadratic expressions, including the difference of two squares Identify and interpret roots, intercepts, turning points of quadratic functions graphically, deduce roots algebraically Recognise, plot, sketch and interpret graphs of quadratic functions Solve quadratic equations algebraically and graphically	Square negative numbers Substitute into formulae Plot points on a coordinate grid in all four quadrants Expand single brackets and collect like terms	There will be a written piece of homework each week to asses learning. Videos and additional work can be accessed via www.corbettmaths.com Www.keshmaths.org.uk
Area and Volume	Calculate exactly with multiples of pi Identify and apply circle definitions and properties Know and apply formulae to calculate area of triangles, parallelograms, trapezia, volume of cuboids and other right prisms Calculate the area/circumference of circles and use this to find arc lengths and angles and areas of sectors of circles	Perimeter Formula Segment Arc Sector Cylinder Circumference Radius Diameter Pi Cone Hemisphere Sphere / Hemisphere	Calculate exactly with multiples of pi Identify and apply circle definitions and properties Know and apply formulae to calculate area of triangles, parallelograms, trapezia, volume of cuboids and other right prisms Calculate the area/circumference of circles and use this to find arc lengths and angles and areas of sectors of circles	Formula for calculating the area of a rectangle Know how to use the four operations on a calculator	There will be a written piece of homework each week to asses learning. Videos and additional work can be accessed via www.corbettmaths.com Www.keshmaths.org.uk

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Indices and Standard Form	Apply the four operations to proper, improper fractions and mixed numbers Calculate with roots and integer indices Calculate exactly with fractions Calculate with and interpret standard from	Mixed Improper Indices Standard form Power Reciprocal index	Apply the four operations to proper, improper fractions and mixed numbers Calculate with roots and integer indices Calculate exactly with fractions Calculate with and interpret standard from	How to calculate the four operations with fractions Write powers of 10 in index form and recognise and recall power of 10 Recall the index laws	There will be a written piece of homework each week to asses learning. Videos and additional work can be accessed via www.corbettmaths.com Www.keshmaths.org.uk

YEAR 11 HALF TERM 2 MATHEMATICS SETS 5 - 6 LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Congruence, Similarity and Vectors	Express a multiplicative relationship between two quantities as a ratio or a fraction Compare lengths, areas and volumes using ration notation Make links to similarity and scale factor Use basic congruence criteria for triangles Apply known angle and shape facts to obtain simple proofs Identify, describe and construct congruent and similar shapes Describe translations as 2D vectors Apply addition and subtraction of vectors, multiplication by vectors by a scalar and diagrammatic and column representations of vectors	Vector Direction Magnitude Scalar Multiple Collinear Congruence similar	Express a multiplicative relationship between two quantities as a ratio or a fraction Compare lengths, areas and volumes using ration notation Make links to similarity and scale factor Use basic congruence criteria for triangles Apply known angle and shape facts to obtain simple proofs Identify, describe and construct congruent and similar shapes Describe translations as 2D vectors Apply addition and subtraction of vectors, multiplication by vectors by a scalar and diagrammatic and column representations of vectors	Used column vectors when dealing with translations Recall and apply Pythagoras' Theorem on a coordinate grid Recognise and enlarge shapes and calculate scale factors Calculate area and volume in various metric measures Measure lines and angles and using compasses, ruler and protractor, construct standard constructions	There will be a written piece of homework each week to asses learning. Videos and additional work can be accessed via www.corbettmaths.com Www.keshmaths.org.uk

YEAR 11 HALF TERM 2 MATHEMATICS SETS 5 - 6 LEARNING PROGRAMME

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Value all

Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Algebra	Rearrange formulae to change the subject Argue mathematically to show algebraic expressions are equivalent Use y=mx+c fluently Recognise, plot, sketch and interpret graphs of reciprocals Solve two linear simultaneous equations Recognise and interpret graphs that illustrate direct and inverse proportion	Reciprocal Linear Gradient Functions Direct Indirect Estimate Simultaneous proof	Rearrange formulae to change the subject Argue mathematically to show algebraic expressions are equivalent Use y=mx+c fluently Recognise, plot, sketch and interpret graphs of reciprocals Solve two linear simultaneous equations Recognise and interpret graphs that illustrate direct and inverse proportion	Be able to draw linear graphs Be able to plot coordinates and sketch simple functions with a table of values Substitute into and solve equations Experience of using formulae Recall and use the hierarchy of operations and use of inequality symbols	There will be a written piece of homework each week to asses learning. Videos and additional work can be accessed via www.corbettmaths.com Www.keshmaths.org.uk

YEAR 11 HALF TERM 3 MATHEMATICS SETS 5 - 6 LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Revision	To improve upon areas of weakness identified through assessments for learning in lesson and students mocks.	Vocabulary will vary dependent upon identified by class teacher	Lessons will be set by the teacher following analysis of student mock data to improve upon areas of weakness identified for the class.	Linked learning will vary dependent upon identified by class teacher	Homework will be tailored towards the weaknesses of the students in the class to further aid progress.

YEAR 11 HALF TERM 4 MATHEMATICS SETS 5 - 6 LEARNING PROGRAMME

Love God
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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Revision	To improve upon areas of weakness identified through assessments for learning in lesson and students mocks.	Vocabulary will vary dependent upon identified by class teacher	Lessons will be set by the teacher following analysis of student mock data to improve upon areas of weakness identified for the class.	Linked learning will vary dependent upon identified by class teacher	Homework will be tailored towards the weaknesses of the students in the class to further aid progress.

YEAR 11 HALF TERM 5 MATHEMATICS SETS 5 - 6 LEARNING PROGRAMME

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Topic	Learning Objectives	Key Vocabulary	Learning Sequence	Linked Learning	Home Learning
Revision	To improve upon areas of weakness identified through assessments for learning in lesson and students mocks.	Vocabulary will vary dependent upon identified by class teacher	Lessons will be set by the teacher following analysis of student mock data to improve upon areas of weakness identified for the class.	Linked learning will vary dependent upon identified by class teacher	Homework will be tailored towards the weaknesses of the students in the class to further aid progress.