TWO RIVERS

HIGH SCHOOL

Two Rivers High School

Pioneers – GCSE

Knowledge and Skills

	Autumn 2022-23		Spring 2022-23		Summer 2022-23	
	Number	Algebra	Ratio and probability	Geometry and measures	Statistics and consolidation	Consolidation
Use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 (N6)						
Use conventional notation for priority of operations, including brackets, powers, roots and reciprocals (N3)						
Calculate with roots and with integer indices (N7)						
Calculate with and interpret standard form A x 10^n, where $1 \leq A < 10$ and n is an integer (N9)						
Round numbers and measures to an appropriate degree of accuracy (eg to a specified number of decimal places or significant figures) (N15)						
Apply the four operations to simple fractions (proper and improper), and mixed numbers –						

both positive and negative (N2) Calculate exactly with fractions (N8)						
Work interchangeably with terminating decimals and their corresponding fractions, including ordering (N10)						
Understand and use the concepts and vocabulary of expressions, equations, formulae, inequalities, terms and factors (A3)						
Understand and use standard mathematical formulae. Rearrange formulae to change the subject (A5)						
Where appropriate, interpret simple expressions as functions with inputs and outputs (A7)						
Recognise, sketch and interpret graphs of linear functions and quadratic functions (A12)						
Plot and interpret graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinetic problems involving distance, speed and acceleration (A14)						
Solve linear equations in one unknown algebraically – find approximate solutions using a graph (A17)						
Solve two simultaneous equations in two variables algebraically (A19)						
Generate terms of a sequence from either a term-to-term or a position-to-term rule (A23)						

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Recognise and use sequences of triangular, square and cube numbers and simple arithmetic progression (A24)		■				■
Change freely between compound units (eg speed, rates of pay) in numerical contexts and solve problems (R1, R11)			■			■
Express one quantity as a fraction of another (R3)			■			■
Use ratio notation, including reduction to the simplest form (R4)			■			■
Apply ratio to real contexts and problems (R5)			■			■
Express a multiplicative relationship between two quantities as a ratio of fraction (R6)			■			■
Understand and use proportion as equality of ratios (R7)			■			■
Express one quantity as a percentage of another (R9)			■			■
Record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees (P1)			■			■
Apply the property that the probabilities of an exhaustive set of outcomes sum to 1 (P4)			■			■
Enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams			■			■
Apply the properties of angles at a point on a straight line, vertically opposite angles; alternate and corresponding angles on				■		■

parallel lines; derive and use the sum of angles in a triangle (G3)						
Derive and apply the properties and definitions of quadrilaterals (G4)						
Identify, describe and construct congruent and similar shapes, including on co-ordinate axes, by considering rotation, reflection, translation and enlargement (G7)						
Identify and apply circle definitions and properties including radius, centre, chord, diameter, circumference (G9)						
Solve geometrical problems on co-ordinate axes (G11)						
Calculate the area and circumference of circles (G17)						
Interpret and construct tables, including frequency tables and pictograms for categorical data, vertical line charts for ungrouped discrete data, and know their appropriate use (S2)						
Interpret, analyse and compare the distributions of data sets from univariate empirical distributions though appropriate graphical representation involving discrete, continuous and grouped data (S4)						
Use and interpret scatter graphs of bivariate data and recognise correlation (S6)						

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