Year 8 Higher Plus Revision List - April 2019

Objective	Hegarty Maths Clip	Objective	Hegarty Maths Clip
Find common factors and common multiples of two numbers	27/33	Estimate answers to calculations using approximation and rounding	131
Know the square numbers up to 15x15 and their corresponding roots	99/101	Understand that premature rounding can cause problems when undertaking calculations with more than one step	132
Estimate roots of any given positive number	112	Use inequality notation to specifiy simple error intervals due to truncation or rounding	134
Identify prime numbers	28	Calculate upper and lower bounds	137
Write a number as the product of its prime factors	29	Calculate speed, distance or time, given the other two	716-724
Find the HCF and LCM of two numbers	32/35	Calculate density, mass or volume, given the other two	725-731
Write a surd in its simplest form	115	Calculate the perimeter of a shape made from triangles, rectangles and other quadrilaterals where some of the values required must be calculated.	551
Multiply and divide with surds	113	Know, understand and use the formula for finding the circumference of a circle.	534
Expand brackets involving surds	116	Calculate the perimeter of a semi-circle.	536
Change between numbers in standard form and ordinary numbers	112/123	Calculate the perimeter of a quadrant.	544
Multiply and divide numbers written in standard form	125/126	Calculate the length of an arc.	544
Add and subtract numbers written in standard form	127	Find the perimeter of a sector.	545
Recognise the sequences of **triangular**, square and cube numbers and the Fibonacci sequence, and use the term-to-term rule to generate further terms.	261	Understand and use function notation.	288
Recognise **quadratic** sequences, and use the term-to-term rule to generate further terms.	247	Find the value of a function at a given point.	288
Recognise **simple geometric** sequences, and use the term-to-term rule to generate further terms.	264	Find the inverse function	295
Identify whether a term will appear in a sequence, and explain your answer.	197	Given two functions find the value of the composite function.	293
Find the nth term of a **linear** sequence.	198	Solve two-step linear equations, e.g. 2x + 1 = 7, where the answers are positive integers.	179
Generate the terms of a **quadratic** sequence using the **position-to-term** rule.	248	Solve all multi-step linear equations, leaving answers as fractions where appropriate	180/181/ 182
Use algebraic notation and symbols correctly.	151	Solve linear equations involving brackets, e.g. 3(2x - 4) = 6.	179
Understand the vocabulary of algebra, including the words term and factor.	151	Solve linear equations where the unknown appears on both sides.	184
Understand that algebraic operations follow the same conventions and order as arithmetical operations.	152	Derive a **linear** equation from a situation, solve and interpret the solution.	176
Differentiate between expressions, equations, formulae, identities and inequalities. Be able to give examples of each.	154	Solve two linear simultaneous equations algebraically where no multiplication is needed.	190
Form expressions from written or diagrammatic contexts.	153	Solve two linear simultaneous equations algebraically where multiplication is needed.	191
Multiply a single term by a bracket.	160	Derive two **linear** simultaneous equations from a situation, solve and interpret the solution.	195
Multiply two (or more) brackets by single terms and simplify the resulting expression.	161	Translate a 2d shape when given a column vector	637/638
Factorise an expression by taking out a common factor.	168	Describe the translation of a 2d shape using a column vector	637/638
Fully factorise an expression by taking out common factors.	169	Represent single column vectors graphically.	622
Expand the product of two linear expressions of the form **x ± n** and simplify the resulting expression.	162	Identify the column vector from a diagram (single vector)	623

Expand the product of two linear expressions of the form **ax ± n** and simplify the resulting expression.	163	Multiply a column vector by a scalar and show this graphically.	626
Write expressions using powers.	173	Add two vectors numerically and show this graphically.	625
Simplify expressions involving the multiplication and division of indices.	173	Recognise and name polygons	822
Simplify expressions involving raising to a power with indices.	174	Understand the terminology (e.g. regular, irregular, etc), notation (e.g. for parallel sides, equal, sides, etc) and properties relating to polygons.	822
Solve simple proportion problems using unitary method	339	Calculate and use angle sums of polygons	560
Use proportion in real contexts (direct only).	339	Understand and use properties of angles on a straight line	477
Use proportion in real contexts (including inverse).	342	Understand and use properties of vertically opposite angles	480
Recognise and interpret graphs that illustrate direct and inverse proportion	348	Understand and use properties of angles at a point	479
Use ratio in relation to standard and compound units	330	Understand and use the angle sum of triangles, find missing angles in scalene triangles	485
Use scale diagrams and maps	864	Find missing angles in isosceles and equilateral triangles	486
Relate ratios to fractions	330	Identify parallel and perpendicular lines	821
Express a relationship between two quantities as a ratio or a fraction	330	Recognise which angles are equal on parallel lines	482
Apply ratio to real contexts and problems (conversion, comparison, scaling, mixing, concentrations)	739	Identify whether equal angles are alternate or corresponding on parallel lines.	481/483
Using equivalent ratios, find an unknown value when another is given.	331	Solve problems using all angle and parallel line rules, giving reasons	488/489
Divide a quantity in a given ratio.	332	Understand and use three figure bearings to specify direction	492
Choose appropriate units for estimating or carrying out measurements	691	Measure the bearing of a point B from a point A	492
Convert between units of measure in the same system	692	Mark on a diagram the position of the point B given its bearing from point A	492
Solve problems involving the addition and subtractions of units of measure.	714	Measure or draw a bearing between the points on a map or scaled plan	493
Round to any number of significant figures	130	Given the bearing of a point B from point A, work out the return bearing of A from B	494
		Use accurate drawings to solve bearing problems	495