# Year 7 Higher Plus Revision List - April 2019

| Objective | Hegarty Maths Clip | Objective | Hegarty Maths Clip |
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| 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 speed, distance or time, given the other two | 716-724 |
| Write a number as the product of its prime factors | 29 | Calculate the perimeter of a shape made from rectangles where some of the values required must be calculated. | 550 |
| Find the HCF and LCM of two numbers | 32/35 | Calculate the perimeter of a shape made from triangles, rectangles and other quadrilaterals where some of the values required must be calculated. | 551 |
| Write a surd in its simplest form | 115 | Know, understand and use the formula for finding the circumference of a circle. | 534 |
| Change between numbers in standard form and ordinary numbers | 112/123 | Calculate the perimeter of a semi-circle. | 536 |
| Multiply and divide numbers written in standard form | 125/126 | Calculate the perimeter of a quadrant. | 544 |
| Add and subtract numbers written in standard form | 127 | Understand and use function notation. | 288 |
| Draw the next diagram in a series of patterns. | 196 | Find the value of a function at a given point. | 288 |
| 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 | 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 |
| Generate the terms of a **linear** sequence using the **position**-to-term rule. | 198 | Solve two-step linear equations, e.g. 2x + 1 = 7, where the answers are positive integers. | 179 |
| Find the nth term of a **linear** sequence. | 198 | Solve all multi-step linear equations, leaving answers as fractions where appropriate | 180/181/182 |
| From the numerical sequence generated from a series of patterns, find the nth term. | 198 | Solve linear equations involving brackets, e.g. 3(2x - 4) = 6. | 179 |
| Use algebraic notation and symbols correctly. | 151 | Solve linear equations where the unknown appears on both sides. | 184 |
| Understand the vocabulary of algebra, including the words term and factor. | 151 | Derive a **linear** equation from a situation, solve and interpret the solution. | 176 |
| Understand that algebraic operations follow the same conventions and order as arithmetical operations. | 152 | Solve two linear simultaneous equations algebraically where no multiplication is needed. | 190 |
| Simplify expressions involving one variable by collecting like terms. | 156 | Solve two linear simultaneous equations algebraically where multiplication is needed. | 191 |
| Simplify expressions involving more than one variable by collecting like terms. | 157 | Interpret a column vector | 637/638 |
| Multiply a number by a bracket. | 160 | Describe movement using column vectors | 637/638 |
| Multiply a single term by a bracket. | 160 | Translate a 2d shape when given a column vector | 637/638 |
| Multiply two (or more) brackets by single terms and simplify the resulting expression. | 161 | Describe the translation of a 2d shape using a column vector | 637/638 |
| Factorise an expression by taking out a common factor. | 168 | Represent single column vectors graphically. | 622 |
| Fully factorise an expression by taking out common factors. | 169 | Identify the column vector from a diagram (single vector) | 623 |
| Write expressions using powers. | 173 | Multiply a column vector by a scalar and show this graphically. | 626 |
| Simplify expressions involving the multiplication and division of indices. | 173 | Recognise and name polygons | 822 |

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| 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 |
| Understand ratio | 328 | Understand and use properties of angles at a point | 479 |
| Understand and use ratio notation | 328 | Understand and use the angle sum of triangles, find missing angles in scalene triangles | 485 |
| Reduce a ratio to its simplest form | 329 | Find missing angles in isosceles and equilateral triangles | 486 |
| Use ratio in relation to standard and compound units | 330 | Identify parallel and perpendicular lines | 821 |
| Use scale diagrams and maps | 864 | Recognise which angles are equal on parallel lines | 482 |
| Relate ratios to fractions | 330 | Identify whether equal angles are alternate or corresponding on parallel lines. | 481/483 |
| Express a relationship between two quantities as a ratio or a fraction | 330 | Solve problems using all angle and parallel line rules, giving reasons | 488/489 |
| Apply ratio to real contexts and problems (conversion, comparison, scaling, mixing, concentrations) | 739 | Understand and use three figure bearings to specify direction | 492 |
| Solve problems involving converting between units of time. | 709 | Measure the bearing of a point B from a point A | 492 |
| Choose appropriate units for estimating or carrying out measurements | 691 | Mark on a diagram the position of the point B given its bearing from point A | 492 |
| Convert between units of measure in the same system | 692 | Measure or draw a bearing between the points on a map or scaled plan | 493 |
| Solve problems involving the addition and subtractions of units of measure. | 714 | Given the bearing of a point B from point A, work out the return bearing of A from B | 494 |
| Round to a given number of decimal places (including money) | 56 | Use accurate drawings to solve bearing problems | 495 |
| Round to any number of significant figures | 130 | | |