

## Year 9 Foundation Revision list

1. Identify factors, multiples, prime numbers, square numbers and cube numbers  
Write a number as the multiplication of prime numbers (called Prime Factor decomposition) eg  $12 = 2 \times 2 \times 3$   
Find the highest common factor (HCF) and lowest common multiple (LCM) of two numbers  
Round numbers to decimal places and significant figures  
Estimate answers to calculations by rounding numbers to 1 significant figure  
Write a large or small number in standard form or change a number from standard form into decimal form
2. Add, subtract, multiply and divide with negative numbers  
Apply the correct order of operations – use BIDMAS
3. Enlarge 2D shapes using a scale factor  
Enlarge a shape using a scale factor and the centre of enlargement  
Sketch a 3D solid given the front/side elevations and the plan  
Draw the elevations and the plan of a 3D solid  
Interpret measurements from a scale drawing  
Measure bearings on a scale diagram using a protractor accurately  
Work out a bearing using your knowledge of angle facts
4. Use a 0-1 number line to mark on roughly where the probability of an event is  
Work out the probability of an event happening  
List all the outcomes or show them in a sample space diagram
5. Simplify and work with algebraic expressions  
Multiply a single number or letter over a bracket eg Expand  $3(a + 2)$  to give  $3a+6$   
Factorise an expression eg Factorise  $4b + 12$  to give  $4(b + 3)$   
Use the basic rules for indices to simplify algebraic expressions eg  $a^3 \times a^5$  gives  $a^8$  because you add the indices  
Substitute numbers into a formula  
Change the subject of a formula eg  $f = t + 4$  so if it is the subject you get  $t = f - 4$
6. Convert between fractions, decimals and percentages
7. Change ratios into fractions  
Divide a quantity into a given ratio  
Work out speed, distance and time problems
8. Write a sequence given the term-to-term rule or the position-to-term rule (nth term)  
Find the nth term for a given sequence
9. Identify alternate, corresponding and interior angles on parallel lines  
Use angle facts such as angles round a point sum to  $360^\circ$ , angles on a straight line sum to  $180^\circ$ , angles in a triangle sum to  $180^\circ$ , angles in a quadrilateral sum to  $360^\circ$   
Be able to work out the sum of the angles in any polygon  
Know the sum of the exterior angles in a polygon  
Find the interior or exterior angle of a regular polygon
10. Solve problems involving percentages such as finding a percentage of an amount with and without a calculator, finding a percentages increase or decrease, convert an increase or decrease into a percentage