

Year 8	Questions & Videos
8aMa1 and 8bMa1 Revision List*	
8.1 The number system	
Know the definition of a prime number	
Be able to calculate whether a number up to 100 is prime	225
Write a number as a product of prime factors	223
Find the Highest Common Factor of two numbers	224
Find the Lowest Common Multiple of two numbers	
Round numbers to a determined number of significant figures	279a
Use rounding to estimate answers to questions	215
Write numbers in standard form with positive and negative powers of 10	300
8.2 Number operations	
Perform addition and subtraction calculations when dealing with negative numbers	205
Perform multiplication and division calculations when dealing with negative numbers	206
	207
Be able to accurately square or cube negative numbers	Video
Substitute negative numbers into algebraic expressions	20
Know that powers and roots fall under the "Indices" within BIDMAS	
Complete BIDMAS calculations accurately with powers and roots	211
8.3 Enlargement & Accurate drawings	
Enlarge a shape using either an integer or fractional scale factor	104
	107
Find the centre of enlargement when a shape has been enlarged	106
Find the scale factor when a shape has been enlarged	105
Draw accurate plans and elevations from a 3D drawing	354
Measure angles accurately and interpret the answer when it is a bearing	26
Interpret diagrams that involve a scale (eg 1cm = 5km)	283
Construct a scale drawing involving bearings	
8.4 Introductory Probability	
Know that probability is measured on a scale of 0-1	251
Know that probabilities can be fractions, decimals or percentages	245
List all outcomes for events	253
Work out the probability for equally likely events	Video
Know that the sum of probabilities for all outcomes is 1	
Find missing probabilities using the sum of all probabilities equalling 1	250
8.5 Introductory Algebra	
Know that in algebra $a \times b$ is written ab	18
Factorise expressions by taking out a common factor (single bracket)	117
Simplify expressions by collecting like terms	
Simplify expressions with a combination of variables (e.g. $3a^2b + 4ab^2 + 2a^2 - a^2b$)	10
Know that $am \times an = a(m+n)$	
Know that $am / an = a(m-n)$	17
Know that $a^0 = 1$ for any value of a	Video
Change the subject of a formula when one or two steps are required	7
8.6 Fractions, Decimals & Percentages	
Identify if a fraction is recurring	Video
Write a decimal as a fraction	123
Simplify fractions into simplest form	146
Convert fractions to decimals	127
Convert decimals to percentages	125
Convert fractions to percentages	125
8.7 Ratio & Proportion	
Write a ratio from a given situation	
Write a ratio as a fraction	
Write a fraction as a ratio	269a
Use scalars/multipliers to solve proportion problems	255
	256
Use fractions in the context of ratio and proportion	
Know that a compound unit is a combination of two or more units	Video
Calculate speed, distance and time from given information	299
Convert quantities to change units	349
8.8 Linear Sequences	
Generate a sequence given a first term and a rule	286
Generate a sequence from a position-to-term (nth term) rule	Video
Find the position-to-term (nth term) for a linear sequence	
Use the nth term to ascertain whether or not a number is in a sequence	288

8.9 Angles in parallel lines and polygons	
Know the meaning of alternate and corresponding angles	25
Identify alternate and corresponding angles between parallel lines	
Know that alternate angles are equal	
Know that corresponding angles are equal	
Find missing angles in diagrams using alternate and corresponding angles	32
Know how to work out the total of the angles in any polygon	
Establish the size of interior angles in any regular polygon	
Establish the size of exterior angles in any regular polygon	
8.10 Percentage Change	
Identify the percentage multiplier for carrying out a percentage increase or decrease	239
Use percentage multipliers when carrying out percentage increases or decreases	
Calculate the original value when a number has had a percentage change (reverse percentages)	240
Calculate simple interest for a number of years	Video
Understand that an exact value fraction is different to a rounded answer	
Use exact value fractions in calculations	
8.11 Linear Equations	
Solve linear equations where the answer is a whole number	110
Solve linear equations where the answer is a negative number	
Solve linear equations where the answer is a fraction	
Solve linear equations that involve brackets	13
Check the solution to an equation by substituting	
Know that the intersection of two graphs shows the solution to a linear equation	Video
8.12 Circles	
Recognise and label, on a circle: Radius, Diameter & Sector Chord & Segment Arc Tangent	61
Know the formula circumference of a circle = $2\pi r = \pi d$	60
Calculate the circumference of a circle	
Calculate the diameter or radius when the circumference is given	62
Calculate the perimeter of composite shapes including part of a circle	
Know the formula area of a circle = πr^2	59
Calculate the area of a circle	
Calculate the diameter or radius when the area is given	
Calculate the area of composite shapes including part of a circle	41
Calculate the volume of a cylinder	357
8.13 Linear Graphs	
Plot graphs of linear functions by using a table of values	186
Find the gradient of a straight line that is on a set of axes	189
Find the y-intercept of a straight line when drawn on a set of axes	191
Know the differences between a linear and a quadratic graph	Video (until 8:20)
Plot graphs of quadratic functions by using a table of values	264
Sketch linear and quadratic graphs	
Plot and interpret distance-time or velocity-time graphs	171
8.14 Organising Probability	
List events to probability events in a Venn diagram or two-way table	380
Fill and use a probability sample space diagram	246
Use a frequency tree to record the outcomes of probability events	376
Calculate expected outcomes from theoretical probabilities	248
Calculate expected outcomes from experimental data	
8.15 Histograms & Scatter Graphs	
Interpret a grouped frequency table	Video
Construct a grouped frequency table for a data set	
Accurately show a continuous data set on a set of axes	
Construct a histogram for grouped data	157
Plot a scatter graph	165
Understand the meaning of correlation	
Interpret a scatter graph as positive, negative or no correlation	
8.16 Grouped Data	
Find the modal class for grouped data	Video
Find the class that contains the median for grouped data	52
Calculate an estimate of the mean for grouped data	55
Estimate the range for grouped data	Video
Choose appropriate statistics (mean, median, mode, range) for data sets	
Justify which statistic is best to describe a data set	