Unit A

YR 9: Higher: ASSESSING MY PROGRESS

Test date:

The codes are for the **GCSE section on** www.vle.mathswatch.co.uk/vle. RAG this box when you have completed the topic.

I can change between fractions, decimals and percentages	84,85	I can factorise quadratics, including co-efficient $x^2 > 1$	157,192
I understand the symbols = ≠ < ≤ > ≥	5	I can factorise using the difference of two squares	158
I can use equivalent fractions to order/compare fractions	70	I can simplify algebraic fractions	210
I can do recurring decimal proofs	189	I can +/-/x/÷ simple algebraic fractions	210
I can do percentages of amounts without and without a calculator	86,87	I can write algebraic proofs	193
I can calculate VAT and apply percentages to money problems		I can use counter arguments to prove a statement false	156
I can increase and decrease an amount by a percentage	108	I know facts about angles at a point, on a straight line	45
I understand what simple interest is & can calculate it	111	I can spot vertically opposite, corresponding & alternate angles	120
I can write one quantity as a percentage of another	88,89	I can calculate unknown angles in all types of triangles	121
I can calculate percentage change	109	I know **both** angle in triangle proofs	121
I can solve reverse percentage problems	110	I can form equations to solve angle problems	137
I can add & subtract integers/decimals (and show working out)	17,18	I can work out interior & exterior angles in regular polygons	123
I can multiply integers/decimals (and show working out)	19,66	I can calculate the sum of angles in polygons	123
I can divide integers/decimals (and show working out)	20,67	I know line symmetry, order of rotational symmetry & tessellation	11, 12
I can write improper fractions as mixed numbers and decimals	BOP	I know the names & properties of triangles & quadrilaterals	9
I can add/subtract fractions/mixed numbers, then simplify	71	I can solve geometric (shape) problems on co-ordinate axis	113
I can x/÷ fractions/mixed numbers, then simplify	73,74	I can remember Pythagoras and use it to find sides of triangles	150b
I can use BIDMAS to answer number sums	75	I can use Pythagoras to calculate distance between co-ordinates	150c
I can use BIDMAS to substitute into formulae, including those used in Science e.g. SUVAT	95	I can draw and understand frequency tables, bar charts, vertical line graphs, frequency polygons	15,64 65
I understand the words; expressions, equations, formulae, identity, inequalities, terms and factors	BOP	I can draw and interpret scatter graphs and correlation, drawing and using **linear** lines of best fit to estimate values	129
I can simplify algebra (+/-/x/÷)	33-35	I know correlation does not indicate causation	129
I can simplify using the rules of indices	131	I can draw and understand pie charts	128
I can expand a single bracket, double brackets or more	93,134,178	I can draw and interpret box plots	187
I can factorise into a single bracket	94	I can draw and interpret histograms (equal and unequal intervals)	205
		I can draw & interpret time series and predict using trend lines	153

Unit B

YR 9: HIGHER: ASSESSING MY PROGRESS

Italics = Revision Topics

UNIT B TEST:

Tick the 1st column when you've written your Book of Power notes.

Colour the 2nd column green if you can do it in class, orange if you can do some, red if you feel you cannot understand any.

The codes are for the **GCSE section** on www.vle.mathswatch.co.uk/vle

I can work out multiples, common multiples and LCM		28,80	I can calculate the perimeter of shapes		52
I can work out factors, common factors and HCF		28,79	I can name all the parts of a circle		116
I can use Venn diagrams to calculate LCM and HCF			I can calculate the area of triangles and quadrilaterals		53-56
I can square and cube numbers, √ and $\sqrt[3]{}$		81	I can calculate circumference of circles & length of arc		118
I can estimate √50, for example		81	I can calculate the area of circles & areas of sectors		117, 167
I understand power notation		82	I can work out the area of compound shapes		53
I can recognise powers of 2, 3, 4 and 5		82	I can work out the volume and surface area of cuboids		114
I can use my calculator for powers and roots		BOP	I can do the volume & surface area of triangular prisms		115
I can work out prime numbers less than 100		28	I can work out the volume & surface area of a cylinder		119
I can write a number as a product of its prime factors		78	I can work out the volume and surface area of a sphere		169
I know the rules of indices		131	I can work out the volume and surface area of a pyramid		170
I understand negative, zero and fractional indices		154,188	I can work out the volume and surface area of a cone		171
I can simplify ratios and express in form 1:n		38	I can work out the volume and surface area of a frustum		172
I can share things using ratios		106	I can leave answers in terms of π		BOP
I can use ratios in recipes		39	*I can calculate the mean, mode, median & range*		62
I can solve problems involving fractions and ratios		107	I can calculate averages from a frequency table		130
I know the gradient of a graph = the rate of change		107	I can solve problems using averages and range		BOP
I understand the link between unit ratio and gradient		107	I can calculate quartiles and inter-quartile range		187
I can use and interpret conversion graphs		107	I can draw and interpret box plots		187
I can change between metric units, including hectares		112	I understand random sampling and how to make it reliable		152
I can do speed, distance, time calculations		142	I can answer stratified sampling questions		176

Unit C

YEAR 9: Higher Tier: ASSESSING MY PROGRESS

Italics = Revision Topics

UNIT C TEST:

1st = colours, 2nd = Tick when BOP notes done, 3rd = **GCSE section** on www.vle.mathswatch.co.uk/vle. Watch these to help you.

I can work out fractions of an amount (I can also do this using decimal multipliers)			24,72	I can enlarge a shape through a centre of enlargement by fractional and negative scale factors.			181
I can express one quantity as a fraction of another			BOP	I can work out the scale factor for area and volume			200
I can calculate percentages using multipliers			BOP	I can use similarity to calculate missing sides & angles			144
Revision of percentage problems from unit A, using multipliers			BOP	I can reflect a shape and describe a reflection fully			48
I can solve fraction and percentage problems			BOP	I can rotate a shape and describe a rotation fully			49
I can categorise rational and irrational numbers			207	I can translate a shape and describe using vectors			50
I can simplify surds			207	I can do & describe a combination of transformations			182
I can +/-/x/÷/expand brackets involving surds			207	I know the rules for congruence(SSS,SAS,ASA,RHS)			166
I can rationalise denominators			207	I can prove shapes are congruent			166
I recognise Triangular, Square number & arithmetic sequences			104,103	I can use congruence & similarity to solve problems			144,166
I can work out the n^{th} term of a linear sequence and decide whether a number is a term in the sequence.			103	I can calculate the probability of mutually exclusive events happening or not happening			60
I can generate number in a sequence using the n^{th} term			102	I can draw a sample space diagram (possibility spaces)			126
I can work out the n^{th} term of a quadratic sequence			213	I can decide if two events are independent			204
I can work out terms in Fibonacci type sequences			141	I can complete and use frequency trees			57
I can identify geometric sequences, even when r is a surd			163	I can calculate probability of repeated events			204
I can solve problems using geometric sequences			163	I calculate conditional probability using two-way tables			61
I can work out the scale factor of an enlargement.			148	I calculate conditional probability using tree diagrams			153/4
I can enlarge a shape through a centre of enlargement by an integer scale factor			148	I calculate conditional probability using Venn diagrams			185
				I can use Venn diagram set notation			127

Unit D

YEAR 9: Higher Tier: ASSESSING MY PROGRESS

Italics = Revision Topics

UNIT D TEST:

1st = colours, 2nd = BOP notes done, 3rd = **GCSE clip numbers** for www.vle.mathswatch.co.uk/vle

I can round numbers to the nearest integer, 10, 100 or 1000			31	I can solve quadratic inequalities			212
I can round numbers to 1, 2 or 3 decimal places			32	I can represent answers to inequalities using set notation			BOP
I can round numbers to 1, 2 or 3 significant figures			90	I can show inequalities as regions on a graph			198
I can use rounding to estimate answers to calculations			91	I can change the subject of a formula			107
I can use place value to answer questions			92	I can use trigonometry to calculate an unknown side			168
I can work out the max and min values for rounded values (bounds			132	I can use trigonometry to calculate an unknown angle			168
I can use inequalities to write error intervals			155	I can use upper and lower bounds in trigonometric calculations			BOP
I can solve upper and lower bound problems			206	I can apply trigonometry in 3D shapes			218
I can write large AND small numbers in standard form			83	I can apply trigonometry to problem solving in 2D and 3D			Mixed
I can convert numbers in standard form to ordinary numbers			83	I can find angles of elevation and depression			BOP
I can multiply and divide numbers in standard form			83	I know properties of scalene, isosceles & equilateral triangles			9
I can add and subtract numbers in standard form			83	I know the properties of all 6 quadrilaterals			9
I understand the meaning of "inverse operation"			21	I use equations to solve problems involving shape properties			BOP
I can understand function machines			36	I can find and use three-figure bearings			124
I can substitute into formulae, including ones from other subjects			95	I can use angles at parallel lines to work out bearings			120
I can solve simple equations			100	I can solve problems involving bearings and scale diagrams			124
e.g. $x + 5 = 7$ $4m = 10$ $\frac{1}{2}X + 4 = 10$ $18 = 4k + 6$			135	I can draw plans and elevations of 3D shapes			51
I can solve equations with unknowns on both sides e.g. $75 + 2t = 100 - 2t$			100 135	I can calculate relative frequency from an experiment and know this can be different if I repeat the experiment			125
I can expand single brackets			93	I know that more trials = more reliable estimates			125
I can solve equations which contain brackets			100 &135	I can work out expected results for experimental and theoretical probabilities (expected frequency)			125
I can use inequality signs between numbers			138				
I can work out integers that satisfy an inequality			138	I can compare real results with theoretical expected results to see if a game is fair			125
I can show solutions to inequalities on a number line			138				
I can solve linear inequalities e.g. Solve $2x - 3 \leq 10$			139	I can compare data sets by calculating averages and measures of spread (including quartiles and inter-quartile range) using the statistical diagrams from unit A			Mixed
I can solve two-sided inequalities e.g. $3m + 1 > m - 4$			139				
I can solve linear inequalities in two variables			139				

Unit E

YEAR 9: HIGHER TIER: ASSESSING MY PROGRESS

UNIT E TEST:

1st = colours, 2nd = Tick when BOP notes done, 3rd = GCSE Section on www.vle.mathswatch.co.uk/vle

I use < > ≤ ≥ = ≠ to compare directed numbers			5	I can work out perpendicular gradients			208
I can + and – directed numbers			68	I can find the equation of a perpendicular line			208
I can x and ÷ directed numbers			68	I can interpret roots of quadratics graphically			160
I can use BIDMAS with directed numbers			75	I can read intercepts of quadratics graphically			160
I can x and ÷ integers & decimals by 10,100,1000….			30	I can read turning points of quadratics graphically			160
I use one calculation to find the answer to another			92	I know all three trigonometric graphs….			195
I can write 1 million and 1 billion in figures			BOP	..and can use to find sin, cos, tan of any angle…			195
I write 0.5 million, 0.25 million, 0.1 million in figures			BOP	..and use to solve trigonometric equations.			195
I can express numbers in standard form			83	I know the properties of 3D shape and describe using correct vocab; face, vertex, edge, surface			43
I change from standard form to ordinary numbers			83				
I can x and ÷ numbers in standard form			83	I can sketch the net of a cuboid			44
I can + and - numbers in standard form			83	I can sketch planes of symmetry on 3D shapes			43
I can use the power button on my calculator			BOP	**I've memorised & use area formulae for 2D shapes**			53-
I can solve mid-point problems			133	I can calculate the area of compound shapes			56
I can plot straight line graphs in the form y =mx + c			96	I can work out the surface area of cubes / cuboids			114
I know, from equations, which will be parallel lines			97	I can calculate the surface area of other prisms			114
I work out gradient & intercepts from graphs			97	Cylinder; sketch net, calculate surface area			114
I work out gradient & intercepts from equations			159	I can count the volume of a shape in cubes.			BOP
I can plot graphs with equations ax + by = c			96	**I've memorised & use volume cuboid formula**			115
I can rearrange equations into y = mx + c form			136	I can calculate the volume of a triangular prism.			119
I can recognise, name and plot straight lines parallel to the axis e.g. x = 3 and y = -2			BOP	**I've memorised & can do volume of a prism**			119
				I've memorised & can do volume of cylinder			119
I can recognise & name the graphs y = x and y = -x			BOP	I understand use of random sampling in real-life			152
I find linear equations given gradient and point			159	I understand the need for sampling			152
I find linear equations given two points			159	I understand how to avoid bias			152
I can sketch a graph given m and c			159	I can answer stratified sampling questions			176