

Unit A

YEAR 10: HIGHER: ASSESSING MY PROGRESS

UNIT TEST:

Colour the 1st column green if you can do it in class, orange if you can do some, red if you feel you cannot understand any.

Tick the 2nd column when you've written your Book of Power notes.

The codes in the 3rd column are for the **GCSE New 2015 Spec section on www.mathswatchvle.com**

I can add and subtract whole numbers & decimals in my head	17,18	I can simplify like terms e.g. Simplify $2a + 3b - 5a - b + 4$	33
I can multiply and divide numbers by 10, 100, 1000	30	I can simplify (multiplying)	34
I can add and subtract decimals (written methods)	17	I can simplify (dividing)	35
I can multiply integers and decimals	19,66	I can expand single brackets e.g. Expand $3(2x - 5y)$	93
I can divide integers and decimals	20,67	I can expand expressions involving single brackets and simplify e.g. Expand and simplify $2 + 3(5x - 6)$	134
I know why \times and \div by numbers between 0 & 1 is a special case	BOP		
I can add, subtract, multiply & divide negative numbers	68	I can expand double brackets and simplify my answer	134
I can do long multiplication	BOP	I can factorise into a single bracket	94
I can do long division	BOP	I can factorise quadratics (into double brackets)	157
I can use a multiplication sum, to work out facts i.e. I'm given $32 \times 18 = 576$, I can do $57.6 \div 180$	92	I recognise & use difference of two squares	158
		I can recognise surd notation on a calculator	BOP
I know what BIDMAS stands for & can use it	75	I can use the rules of indices	131
I can round numbers to the nearest integer, 10, 100 etc.	31	I can measure & draw lines and angles accurately	46
I can round numbers to 1, 2, 3 decimal places.	32	I can calculate the volume and surface area of spheres	169
I can round numbers to 1, 2, 3 significant figures	90	I can calculate the volume and surface area of pyramids	170
I can work out upper and lower bounds	132	I can calculate the volume and surface area of cones	171
I can write error intervals	155	I can compare sets of data using the mean and range	62
I know ab means $a \times b$	7	I can compare the mean from a list with the mean from a frequency table	62
I know $3y$ means $y + y + y$ and also means $3y$	7		130
I know a^2 means $a \times a$ and a^3 means $a \times a \times a$	7	I can do a random sample (and have memorised the definition)	152
I know a^2b means $a \times a \times b$	7	I can do a stratified sample questions	176
I know a/b means $a \div b$	7	I know "bigger sample = more reliable conclusions"	152

Unit B

YEAR 10 HIGHER: ASSESSING MY PROGRESS

Oct Half Term - Christmas

The numbers are for the clip on KS4 New 2015 Spec on www.mathswatchvle.com matching each skill below.

Colour this box green, orange or red AFTER you have completed a lesson on the skills below, to show how much you understand.

NOTE: *Italics = skills we expect you to be able to do already, check you can do these, revise if you've forgotten them!*

I can recognise equivalent fractions and use to compare	25	I can convert between metric speed measures	BOP
I can simplify fractions	26	I can use formulae to calculate speed and acceleration	BOP
I can convert between fractions, decimals and percentages	84	I can solve problems using compound measures, such as speed, rates of pay, density and pressure	142
I can use $<$, \leq , $>$, \geq , $=$, \neq symbols when ordering	5		BOP
I know that each terminating decimal is a fraction	BOP	I can work out the upper and lower bounds of a number	132
I can convert between recurring decimals and fractions	177	I can write error intervals for a rounded number	155
I can "do" recurring decimal proofs	189	Design, use and complete two-way tables	61
I can switch between improper fractions and mixed numbers	BOP	I produce & interpret bar charts	15
I can add and subtract fractions, including mixed numbers	71	I can produce and interpret composite bar charts	BOP
I can work out reciprocals of integers, fractions and decimals	76	I produce & interpret comparative & dual bar charts	BOP
I can multiply and divide integers by fractions	73,74	I can produce and interpret pie charts	128
I can multiply and divide fractions, including mixed numbers	73,74	I can produce and interpret time series	153
I can find a fraction of an amount	72	I can draw and interpret a vertical line chart	64
I can find percentages of an amount	86,87	I can design tables and data collection sheets	BOP
I use decimals to calculate percentage or fraction of amounts	BOP	I produce & interpret stem-and-leaf diagrams....	BOP
I can use multipliers to increase or decrease by a percentage	BOP	... and back-to-back stem-and-leaf diagrams	BOP
I can substitute into formulae	95	I can produce, use and interpret scatter graphs	129
I can substitute positive and negative numbers into expressions	95,68	I can draw and use a line of best fit	129
I can use formulae from maths AND other subjects	BOP	I can draw a box-and-whisker diagram	187
I can rearrange/ change the subject of a formula	101,136	I can interpret a box-and-whisker diagram	187
I can show inequalities on a number line	138	I can draw a histogram	205
I can solve inequalities	139	I can interpret a histogram	205
I can solve equations	135	I can complete a cumulative frequency table	186
I can read solutions of equations from a graph	140	I can draw a cumulative frequency graph	186
I can convert between metric units (length/area/volume)	112	I can estimate medians, quartiles and IQR from cumulative frequency graph	186
I can do average speed, distance and time calculations	142		

Unit C YEAR 10 HIGHER: ASSESSING MY PROGRESS **Just after Christmas - Feb Half Term**

The numbers are for the clip on KS4 New 2015 Spec on www.mathswatchvle.com matching each skill below.

Colour this box green, orange or red AFTER you have completed a lesson on the skills below, to show how much you understand.

NOTE: *Italics = skills we expect you to be able to do already, check you can do these, revise if you've forgotten them!*

<i>Revise percentages: Clips 84-89, 108, 111</i>		I can recognise a graph from its shape	161
I can calculate percentage change (incl. % profit/loss)	109	I can recognise and sketch exponential functions	194
I can recognise and solve reverse percentage problems	110	I can draw the graph of a circle	197
I can calculate compound interest and depreciation	164	I can find the equation of a tangent to a circle	197
I can solve problems involving midpoints of a line	133	I know the 3 trigonometric graphs & use to solve equations	195
I can plot and name straight lines parallel to the axis	BOP	<i>I know the properties of triangles and quadrilaterals</i>	9
I plot graphs with equations $y = mx + c$ or $ax + by = c$	96	I can use the SSS, ASA, SAS, RHS to prove congruence	166
I can identify lines with the same gradient or y-intercept from their equations	BOP	I can use congruence to work out unknown angles and sides	166
I can work out the y-intercept from a straight line graph	159	I can use similarity to solve unknown angles and sides	144
I can find the gradient from a straight line graph	97	I can use similarity to calculate area and volume	200
I can accurately draw a line with a given gradient	97	I can reflect a shape & describe a reflection	48
I can find the gradient and length of a line segment		I can rotate a shape & describe a rotation	49
I can sketch linear graphs, given the value of m and c	159	I can translate shapes & describe translations using vectors	50
I can find the equation of a straight line from the graph	159	I can enlarge a shape and describe an enlargement	148
I can find equation of line given gradient and a point	159	I can enlarge a shape using negative scale factors	181
I can find equation of line given two points	159	I can carry out & describe combinations of transformations	182
I can find the equation of lines parallel or perpendicular to a given line		<i>I can calculate mean, mode, median, range</i>	62
I can recognise and plot quadratic graphs	98	I can identify outliers	BOP
I can identify the line of symmetry of a quadratic graph	160	I know the advantages and disadvantages of each average	62
I can interpret quadratic graphs in real-life situations	160	I can compare sets of data using the mean and range	62
I can draw graphs of cubic functions	161	I can solve problems using averages and range	BOP
I can solve quadratic and cubic equations using graphs	160	I can calculate the averages & range from frequency tables	130
I can draw graphs of reciprocal functions e.g. $y = 1/x$	161	I can estimate the mean and range for grouped data	130
		I can name the modal class	130
		I can name the class interval containing the median	130

Unit D

YEAR 10 Higher: ASSESSING MY PROGRESS

Feb Half Term - Easter

NOTE: *Italics* = skills we expect you to be able to do already, check you can do these, revise if you've forgotten them!

The numbers refer to the **GCSE Section** on www.mathswatchvle.com.

<i>I can simplify ratios</i>	38	I can calculate radius or diameter, given area (of circle)	117
<i>I understand the link between ratios and fractions</i>	107	I can calculate the area and perimeter of composite shapes which include parts of circles	BOP
<i>I can solve proportion recipe type questions</i>	39		
<i>I can share quantities in given ratio</i>	106	I can express circumference or area in terms of π	117-8
<i>I can use ratios to solve problems</i>	107	I can work out the perimeter of 2D shapes	52
I can solve simultaneous equations graphically	140	I can calculate the area of composite shapes	53
I can solve linear simultaneous equations	162	I recognise the difference between an expression, formulae, identity and equation	5
I solve simultaneous equations where one is quadratic	211		
I solve simultaneous equations graphically, where one graph is a circle	BOP	I understand when to use \neq and \equiv symbols	5
		I can write expressions or equations to solve problems	137
I can write a pair of linear simultaneous equations to solve problems	137	I can calculate volume of a sphere	169
	BOP	I can calculate volume of a pyramid	170
I can write simultaneous equations, where one equation is quadratic	137	I can calculate volume of a cone	171
	BOP	I can calculate volumes of shapes made up from these	BOP
I can solve simultaneous equations for real-life situations and interpret solutions in context	BOP	I can calculate the surface area of a sphere	169
		I can calculate the surface area of a pyramid	170
I can name these parts of a circle: centre, radius, chord, diameter, circumference, arc, sector, segment	116	I can calculate the surface area of a cone	171
		I calculate the surface area of shapes made from these	BOP
I have memorised the circle formulae (area & circumference)		<i>I can calculate the probability of an event</i>	59
<i>I can calculate the circumference of a circle</i>	118	I can calculate relative frequency	125
I can solve problems involving circumference of circles	118	I predict using experimental data (expected frequency)	125
I can work out percentage error intervals	155	I understand more trials = more reliable results	125
<i>I can calculate the area of a circle</i>	117	I compare theoretical probability to experimental data	125

Unit E

YEAR 10 Higher Tier: ASSESSING MY PROGRESS

Just after Easter - May Half Term

NOTE: *Italics* = skills we expect you to be able to do already, check you can do these, revise if you've forgotten them!

The numbers refer to the **GCSE Section** on www.vle.mathswatch.co.uk/vle

I know the first 15 square & first 6 cube numbers	81	I read approximate solutions to quadratics from graphs	140
I can work out both square roots of a number	81	I understand when to use the \neq and \equiv signs	5
I can find the cube root of a number.	81	I can simplify using the 3 rules of indices	82/131
I can estimate square & cube roots of any positive integers	81	I can simplify algebraic fractions	210
I recognise surd answers on my calculator	81	I can + and - algebraic fractions	210
I can evaluate powers without a calculator	82	I can \times and \div algebraic fractions	210
I understand zero and negative powers	BOP	I can solve equations which involve algebraic fractions	210
I can evaluate fractional indices	188	I use Pythagoras' Theorem to calculate unknown sides	150
I recognise powers of 2, 3, 4 and 5	82	I can solve problems using Pythagoras' Theorem	150
I can use the power buttons on my calculator	BOP	I use trigonometry to calculate an unknown sides	168
I can write large & small numbers into standard form & back	83	I use trigonometry to calculate an unknown angles	168
I can do sums in standard form without a calculator	83	I can solve problems using trigonometry	168
I can use a calculator for standard form	83	I can systematically list possible outcomes of an event	58
I can expand and simplify expressions with single, double and triple brackets	93,134	I calculate probabilities as fraction/decimal/percent	59
	178	I can draw a sample space diagram/possibility space and use to calculate probability	126
I know the difference between rational & irrational numbers	BOP		
I can simplify surds	207	I understand "mutually exclusive"	60
I can $+/-/\times/\div$ and expand brackets with surds	207	I understand "exhaustive outcomes"	BOP
I can rationalize denominators	207	I can complete two-way tables & apply to probability	61
<i>I can factorise into single brackets</i>	94	I can use Venn diagrams to calculate probability	127
I can factorise quadratic expressions, including $a > 1$	157,192	I understand the language of sets and Venn diagrams	127
I can factorise using difference of two squares	158	I complete frequency trees & apply to probability	57
I rearrange then solve quadratic equations using factorising	157	I can complete tree diagrams for independent events	151
I rearrange then solve quadratics by completing the square	209	I complete tree diagrams for dependent events	175
I rearrange then solve quadratic equations using the formula	191	I understand when events are independent	

