

Unit 6 – algebraic reasoning				
No.	Question	Answer	Example	HIGHER ONLY
6.1	What is an identity?	An equation that is true for all values of the variables	$2x \equiv x + x$	
6.2	$a^b \times a^c$	$a^{b+c}$	$2^3 \times 2^4 = 2^7$	
6.3	$\frac{a^b}{a^c}$	$a^{b-c}$	$\frac{2^7}{2^3} = 2^4$	
6.4	$(a^b)^c$	$a^{bc}$	$(2^3)^4 = 2^{12}$	
6.5	Even number	2n		X
6.6	Odd number	2n + 1		X
6.7	Consecutive numbers	n, n + 1, n + 2, n + 3		X
6.8	Consecutive even numbers	2n, 2n + 2, 2n + 4, 2n + 6		X
6.9	Consecutive odd numbers	2n + 1, 2n + 3, 2n + 5		X
6.10	$y = mx + c$	$m = \text{gradient}$ $\frac{\text{Difference in } y}{\text{Difference in } x} = \frac{y_2 - y_1}{x_2 - x_1}$ $c = y \text{ intercept (where the line crosses } y \text{ axis)}$		
6.11	To find the mid-point	$(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2})$		
6.12	Parallel lines	Have the same gradient	$y = 3x + 4$ $y = 3x - 6$	
6.13	Perpendicular lines	Gradient = $-\frac{1}{\text{gradient}}$	$y = 3x + 4$ $y = -\frac{1}{3}x - 6$	
6.14	Three equations of motion are...	$v = u + at$ $s = ut + \frac{1}{2}at^2$ $v^2 = u^2 + 2as$		X
6.15	$\leq$	Less than or equal to		
6.16	$<$	Less than		
6.17	$\geq$	Greater than or equal to		
6.18	$>$	Greater than		

Unit 7 – geometric reasoning				
No.	Question	Answer	Example	HIGHER ONLY
7.1	Adjacent angles on a straight line sum to...	$180^\circ$		
7.2	Angles around a point sum to...	$360^\circ$		
7.3	Vertically opposite angles are...	Equal		
7.4	Interior angles in a triangle...	sum to $180^\circ$		
7.5	Interior angles in a quadrilateral...	sum to $360^\circ$		
7.6	All angles in an equilateral triangle...	are $60^\circ$		
7.7	Alternate angles...	are equal		
7.8	Corresponding angles...	are equal		
7.9	Co-interior angles...	add up to 180		
7.10	Polygon	Any 2D shape formed with straight lines		
7.11	Regular polygon	A 2D shape formed with equal straight lines and equal interior angles		
7.12	Interior angles	The angles inside a polygon		
7.13	Sum of interior angles	(number of sides - 2) x $180^\circ$		
7.14	Exterior angles	The angles outside a polygon		
7.15	Exterior angles...	Sum to $360^\circ$		
7.16	Interior and exterior angles...	Sum to $180^\circ$		

Date (week commencing)	Numbers to learn
7 <sup>th</sup> Jan	6.1 – 6.9
14 <sup>th</sup> Jan	6.5 – 6.14
21 <sup>st</sup> Jan	6.1 – 6.18
28 <sup>th</sup> Jan	6.1 – 6.18
4 <sup>th</sup> Feb	7.1 – 7.9
11 <sup>th</sup> Feb	7.1 – 7.16

Unit 9 – plans and elevations		
No.	Question	Answer
9.1		

Unit 11 – loci		
No.	Question	Answer
11.1	The four tests for congruence are	SSS ASA SAS RASH
11.2	Triangles are <u>similar</u> if...	All angles are the same (AAA) They are an enlargement of each other

Unit 10 – volume and surface area		
No.	Question	Answer
10.1	What is the area of a rectangle?	= length x width
10.2	What is the area of a triangle?	= $\frac{1}{2}$ base x perpendicular height
10.3	What is the area of a trapezium?	$\frac{1}{2}(a + b) \times h$ "Half the sum of the parallel sides times the difference between them"
10.4	What is the area of a parallelogram?	=base x perpendicular height
10.5	What is a prism?	A 3D solid which has the same 2D shape running all the way through it
10.6	What is the volume of a prism?	Area of cross section x length
10.7	How do you find the surface area of a 3D solid?	The sum of the area of all the 2D faces
10.8	What is the volume of a cone?	$\frac{1}{3} \pi r^2 h$
10.9	How do you find the surface area of a cone?	$\pi r l + \pi r^2$
10.10	How do you find the volume of a square based pyramid?	= $\frac{1}{3} \times \text{area of base} \times h$
10.11	What is the volume of a sphere?	$\frac{4}{3} \pi r^3$
10.12	What is the surface area of a sphere?	$4\pi r^2$
10.13	Area scale factor	LSF <sup>2</sup>
10.14	Volume scale factor	LSF <sup>3</sup>

Unit H12 – further trigonometry (HIGHER ONLY)		
No.	Question	Answer
12.1	Cosine Rule	$a^2 = b^2 + c^2 - 2bc \cos A$
12.2	Area of a triangle	Area = $\frac{1}{2} ab \sin C$
12.3	Sine Rule	$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Date (week commencing)	Numbers to learn
25 <sup>th</sup> Feb	9.1
4 <sup>th</sup> Mar	10.1 – 10.7
11 <sup>th</sup> Mar	10.8 - 10.14
18 <sup>th</sup> Mar	10.8 – 11.2
25 <sup>th</sup> Mar	11.1 – 12.3
1 <sup>st</sup> Apr	9.1 – 12.3