

NAME		TEACHER				
My GCSE Target Grade is		End of Cycle Teacher Assessment Please circle				
		SAE	AE	E	BE	SBE
End of unit assessment type		Your end of topic assessment will be a written exam.				

YEAR 8 CYCLE 4: NUMBER SKILLS / CONSTRUCTIONS

Knowledge		Prior knowledge	End of topic
7 to 9	Accurate Drawings – I can accurately draw triangles using a ruler and protractor		
	Constructing Shapes – I can draw accurate nets of 3D solids and construct triangles using only a ruler and a compass		
	Constructions 1 – I can bisect a line using a ruler and a compass and construct a perpendicular bisector of a line segment		
	Constructions 2 – I can bisect angles user a ruler and a compass (and draw 60° / 30° angles)		
	Loci – I can draw a locus of a point and use loci to solve problems		
6	Adding and subtracting fractions – I can add and subtract fractions with any size denominator		
	Multiplying fractions – I can multiply integers and fractions by a fraction		
	Fractions / Decimals / Reciprocals – I can convert fractions to decimals and write one amount as a fraction of another. Find the reciprocal of a number.		
	Dividing fractions - Divide integers and fractions by a fraction.		
	Mixed Numbers – I can work with the four operations and mixed numbers.		
5	Squares, Cubes & Roots – I can calculate squares and square roots, mentally and using a calculator and cubes and cube roots in the same way		
	Brackets & Indices – I can carry our calculations involving brackets and square numbers and use the appropriate keys on a calculator		
	Lowest Common Multiple – I can find the LCM and use it to solve problems (e.g. with money / time)		
	Highest Common Factor – I can find the highest common factor (HCF) of a pair of numbers		
	Prime Factor Trees – I can use prime factor decomposition (factor tree) to find the prime factors of any number than 150		

LEARNING TOOLS

KEY CONCEPTS	Constructions	A construction is a shape or diagram that is		
KEY QUESTIONS	When is it useful to find the Highest Common Factor?		What is a number sequence?	
KEY EQUATION		Sum of Interior Angles in a Polygon $(n-2) \times 180$		

YEAR 8 CYCLE 4: NUMBER SKILLS / CONSTRUCTIONS

	Skills	Prior knowledge	End of topic
7 to 9 Delta	G1 - points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons		
	G2 - <u>use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle)</u>		
	G13 - <u>construct and</u> interpret plans and elevations of 3D shapes		
6 Theta	N8 - calculate exactly with fractions		
	N10 - work interchangeably with terminating decimals and their corresponding fractions and change recurring decimals into their corresponding fractions and vice versa		
	G4 - apply the properties of special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus; and triangles		
5 Pi	N3 - recognise and use relationships between operations, including inverse operations and be able to use BIDMAS		
	N4 - use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation		
	N6 - use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5; estimate powers and roots of any given positive number		

EVERYBODY READS... IN MATHS!

KEY WORDS	Prime Factor	Mixed Number	Perpendicular	Bisect	Denominator

PROBLEM OF THE CYCLE

Is it possible to fill each square in with an arithmetic operation (+ - ÷ x) so that this becomes a true equation?

$$10 \square 10 \square 10 \square 10 = 101$$