	Year 11 Foundation Unit 17 – Perimeter	, area and volume
Learning Outcome	Students will know and remember	So that they can
Know the relationship	That the circumference of a circle can	Calculate the circumference of a circle given
between the	be defined as πd	its radius or diameter.
circumference and	That the distance across the circle at	Calculate the radius or diameter of a circle
diameter of a circle.	its widest point is called the	given its circumference.
diameter of a circle.	diameter.	Calculate perimeters and areas of composite
	That half a diameter is called a	shapes made from circles and parts of circles.
	radius.	Calculate arc lengths of sectors of circles.
		Calculate the angles of sectors of circles
		C C
		when given the arc length.
Know the relationship	That the area of a circle can be	Calculate the area of a circle given its radius
between the area and	defined as πr ²	or diameter.
radius of a circle.		Calculate the radius or diameter of a circle
		given its area.
		Calculate areas of sectors of circles.
		Calculate the angles of sectors of circles
	That water and we also up of 2D shows a	when given the area.
Investigate the surface	That nets are made up of 2D shapes. How to find the areas of	Calculate the surface area of 3D shapes.
area of 3D shapes.	quadrilaterals and triangles.	
Understand volume of 3D	That volume is the space a 3D solid	Calculate volume of cubes, cuboids,
	takes up.	triangular prisms, cylinders, pyramids, cones
shapes.	That volume is calculated by	and spheres.
	multiplying the cross-sectional area	
	by its depth.	
	Year 11 Foundation Unit 18 – Fractic	ons and indices
Learning Outcome	Students will know and remember	So that they can
Perform calculations with	That to add and subtract a fraction,	Add, subtract, multiply and divide fractions.
fractions	you must use a common	Calculate fractions of a quantity.
	denominator.	Calculate areas and perimeters accurately.
	That to multiply fractions you	
	multiply the numerators and	
	denominators.	
	That the reciprocal of a number is its	
	inverse.	
	That to divide fractions you use the	
	reciprocal and the inverse operation.	
Understand exponents	The notation of exponents.	Write repeated multiplications of the same
	That an exponent can be called a	number in index form.
	power or index number and means	Perform calculations with powers of any
	how many times another number is to be multiplied by itself.	number. Simplify calculations using the index laws.
	That a fractional index refers to the	Simpling calculations using the muex laws.
	"root" of the number.	
	That anything raised to the index of	
	zero equals one.	
	That a negative index refers to the	
	reciprocal of the number.	
	That a reciprocal is 1 divided by the	
	given number.	

are multiplying with powers, you add them.are multiplying with powers, you subtract them.Understand standard formThat large and small numbers can be written as a number multiplied to the power of ten. That standard form starts with a number larger than 1 but less than 10.Convert large and small numbers in to standard form and vice versa. Add and subtract numbers in standard form. Multiply and divide numbers in standard form. Interpret a calculator display using standard form and know how to enter numbers in standard form.Learning OutcomeStudents will know and remember same.So that they canUnderstand the conditions of similar triangles.That congruence means exactly the same. That the scale factor of an enlargement of a similar shape can be described as the ratio of the lengths of two corresponding sides. That to cogruent triangles can be proved if they follow the following conditions: use SSS, SAS, ASA and RHS.Prove the congruence of unagles using formal arguments. Identify similarit triangles.Understand vectors.That a coloring vector represents horizontal and vector represents horizontal and vector subjers a value, the expression will have a value.Be able to draw and interpret column vector. Perform vector arithmetic.Understand and manipulate formulae.Students will know and rememberSo that they canUnderstand and manipulate formulae.Students will know and rememberSo that they canUnderstand and manipulate formulae.That a linear graph is in the form y=nx + c. That a quadratic graph is in the form y=nx + c.So that they canRecognise types of graphs. <td< th=""><th></th><th></th><th></th></td<>			
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		That a quadratic graph is in form y =	
These exclusions in the foreign of a		x ² .	
I hat a cubic graph is in form $y = x^2$.		That a cubic graph is in form $y = x^3$.	
That a reciprocal graph is in form y =			
1/x.			
	Understand gradient and		
	straight-line graphs.	-	
That the m is the value of theIdentify parallel lines from their equations.			Identify narallel lines from their equations
gradient. Find the equation of a straight line from a		That the mis the value of the	identity paraller lines from their equations.
That the c is where the line crosses graph.		gradient.	
the y axis.		gradient. That the c is where the line crosses	Find the equation of a straight line from a

	The same gradient means the lines will be parallel. That perpendicular means at right angles to. That perpendicular gradients have a product of negative 1.	Find the equation of the line through one point with a given gradient.
Form and solve simultaneous equations.	That you can solve a pair of linear simultaneous equations using	Find the exact solutions of two simultaneous equations and interpret in context.
	elimination or substitution.	equations and interpret in context.
	That you may need to multiply an	
	equation to create the same number of variables.	
	That you can only solve a linear and	
	quadratic simultaneous equation by using substitution.	
	That the equation of a circle is given by $x^2 + y^2 = r^2$	
	That the solution of simultaneous equations represents the intersection	
	of the lines/curves.	