

Student Name: _____ Year 8: _____ Year 9: _____ Year 10: _____



PRE ALGEBRA/	ALGEBRA	Levels			
	2	3	4	5	6
17 Functions Students recognise and describe the nature of the variation in situations, interpreting and using verbal, symbolic, tabular and graphical ways of representing variation.	No Outcomes are specified.	PA 17a.3 <i>Understand graphs</i> The student: Is working toward achieving Level 4. PA 17b.3 <i>Represent variation</i> The student: Is working toward achieving Level 4.	PA 17a.4 <i>Understand graphs</i> The student: Interprets tables and graphs showing two quantities changing with respect to each other in everyday situations. PA 17b.4 <i>Represent variation</i> The student: Understands that some quantities display variation.	A 17a.5 <i>Understand graphs</i> The student: Generates and plots data in four quadrants, describing patterns in the resulting scatter of points and interpreting the graph. A 17b.5 <i>Represent variation</i> The student: Sketches informally and interprets graphs which describe the relationship between two quantities in familiar situations.	A 17a.6 <i>Understand graphs</i> The student: Recognises and represents at least linear, quadratic and exponential relationships in tables, symbols and graphs. Plots, sketches and interprets graphs, considering points, interval lengths, increases and decreases over an interval, and slope. A 17b.6 <i>Represent variation</i> The student: Describes informally how one quantity varies with the other; explores the relationship between proportion and linear graphs.
18 Expressing generality Students read, write and understand the meaning of symbolic expressions, moving flexibly between equivalent expressions.	PA 18.2 The student: Recognises, continues and describes repeating patterns, identifying the elements of the pattern cycle and represents the same pattern with different forms and describes patterns involving counting, grouping and constant addition or subtraction of whole numbers.	PA 18.3 The student: Recognises, describes and uses spatial patterns and patterns involving operations on whole numbers, following and describing rules for linking materials by changes in shape and size or linking terms in a sequence by multiplication or addition-based or subtraction-based strategies.	PA 18.4 The student: Recognises, describes and uses spatial patterns and patterns involving whole, decimal and fractional numbers, following and describing rules for linking objects or figures by changes in size and orientation or linking successive terms in a sequence or paired quantities by a single operation.	A 18a.5 <i>Reason about patterns</i> The student: Recognises, describes and uses patterns in numbers and patterns that can be represented by numbers, involving one or two operations, and follows, compares and explains rules for linking successive terms in a sequence or paired quantities using one or two operations. A 18b.5 <i>Understand symbols</i> The student: Uses a letter to represent a variable quantity in an oral or written expression; uses conventional notation such as indices; links successive terms in a sequence involving one or two operations.	A 18a.6 <i>Reason about patterns</i> The student: Classifies number patterns that are linear, quadratic or involve a power of a whole number; interprets, constructs and clarifies rules for describing them; and applies them to familiar or concrete situations. A 18b.6 <i>Understand symbols</i> The student: Uses and interprets basic algebraic conventions for representing situations involving a variable quantity; uses algebraic conventions to represent generality and relationships between variables.
19 Equivalence, equations and inequalities Students write equations and inequalities to describe the constraints in situations and choose and use appropriate solution strategies, interpreting solutions in the original context.	PA 19.2 The student: Uses own adding and subtracting strategies to maintain equivalence between two amounts, compensating for changes made to one with changes to the other.	PA 19.3 The student: Uses own strategies to maintain equivalence between two quantities or two expressions.	PA 19.4 The student: Constructs and completes statements of equality, including where more than one solution exists, using their understanding of numbers and number relationships.	A 19.5 The student: Finds numbers or number pairs using a variety of methods for one- and two- step equations that satisfy a single constraint given in words. The student uses graphs to solve linear equations and graphs, truth sets for linear equalities and inequalities on a number line, removes brackets and factorises linear expressions.	A 19.6 The student: Generates linear equations and inequalities that represent one and two constraints in a situation; solves them graphically and analytically, including solving simultaneous linear equations; factorises quadratic expressions and solves quadratic equations.