Mathematics – Age Related Milestones   Year 7

Queen's Park High School

NUMBER	Working Towards		Meeting		Exceeding	
Basic skills	Understand and use place value for decimals, measures and integers of any size Order positive integers; use the number line as a model for ordering integers and decimals; use the symbols =, ≠, <, >, ≤, ≥ Use standard units of mass, length, time, money and other measures	HT1	Order positive integers and decimals Use addition and subtraction, applied to positive integers and decimals Use standard units of mass, length, time, money and other measures, including with decimal quantities Round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places] Use approximation through rounding to estimate answers use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor and lowest common multiple	HT1 HT2	Make and test conjectures about patterns and relationships; look for proofs or counter-examples Begin to reason deductively in number Interpret when the structure of a numerical problem requires additive or multiplicative reasoning Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems Develop their use of formal mathematical knowledge to interpret and solve problems Extend their understanding of the number system	HT1 HT2 HT1 HT4
Calculations	Use addition and subtraction, applied to positive integers	HT1	Recognise and use the inverse relationship between the addition and subtraction operations Use the four operations, applied to positive integers and decimals Multiply and divide positive integers and decimals Use conventional notation for the priority of operations, including brackets	HT1 HT2 HT5	Select appropriate concepts, methods and techniques to apply to unfamiliar and non-routine problems	HT1
Fractions, decimals and %			Order positive fractions and decimals; use the number line as a model for ordering fractions, Multiply and divide positive integers, decimals and fractions	HT4	Interpret when the structure of a numerical problem requires additive, multiplicative or proportional reasoning Interpret fractions and percentages as operators	HT4 HT6
Ratio/Proportion			Work interchangeably with terminating decimals and their corresponding fractions Define percentages as 'number of parts per hundred' Interpret percentages and percentage changes as a fraction or a decimal Express one quantity as a percentage or fraction of another Compare two quantities using percentages and work with percentages greater than 100%	HT4 HT4	Solve problems involving percentage change, including: percentage increase and percentage decrease Understand that a multiplicative relationship between two quantities can be expressed as a fraction	HT6 HT4

ALGEBRA	WORKING TOWARDS		MEETING		EXCEEDING	
Co-ordintes			Work with coordinates in all four quadrants	HT3		
Manipulation, equations and sequences			Use and interpret algebraic notation Substitute numerical values into formulae and expressions, including formulae Understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors Simplify and manipulate algebraic expressions to maintain equivalence Understand and use standard mathematical formulae Generate terms of a sequence from either a term-to-term or a position to-term rule	HT5	Use algebra to generalise the structure of arithmetic, including to formalise mathematical relationships Substitute values in expressions and scientific formulae Rearrange and simplify expressions, and solve equations Develop algebraic fluency Use language and properties precisely to analyse numbers, algebraic expressions Model situations or procedures by translating them into algebraic expressions Begin to reason deductively in algebra	HT5
GEOMETRY and MEASURE			Calculate and solve problems involving perimeters of 2-D shapes (triangles and rectangles)	HT1	Derive and apply formulae to calculate and solve problems involving: perimeter and area of rectangles and triangles	HT2
Drawing, measuring,			Draw and measure line segments and angles in geometric figures Describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, triangles and quadrilaterals Use the standard conventions for labelling the sides and angles of triangle ABC Use the sum of angles in a triangle	HT3	Derive and illustrate properties of triangles, quadrilaterals [for example, equal length and angles] using appropriate language and technologies Use language and properties precisely to analyse 2-D shapes Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles	HT3
DATA HANDLING			Calculate and use the mean to describe, interpret and compare observed distributions of a single variable	HT2	Move freely between different numerical, algebraic, graphical and diagrammatic representations Use language and properties precisely to analyse numbers and statistics Explore what can and cannot be inferred in statistical settings, and begin to express their arguments formally	HT6
			Use pie charts to describe, interpret and compare observed distributions of a single variable Interpret pie charts for categorical data	HT6		