

Mathematics Assessment Framework



Paper A (Calculators are not permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Counting objects Ordering and comparing positive whole numbers Using place Value Ordering and comparing quarters, halves, tenths and hundredths Odd and Even Numbers Using factors and multiples of whole numbers (without using the words "factor" or "multiple") 	<ul style="list-style-type: none"> Patterns Simple number patterns 	<ul style="list-style-type: none"> Measures Measure and compare masses, lengths, areas, volumes (and capacities) Measure and compare time in days, months and years Recognise half and quarter turns Identify angles of the same size Order angles 	<ul style="list-style-type: none"> Space Identify relative position on a picture or map Identify figures with reflection symmetry Identify nets, plans and elevations of 3D figures and vice versa Identify and continue a pattern of shapes Reflect a shape about a given axis (simple) Rotate a shape about a vertex of the shape or its centre 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events
Arithmetic	<ul style="list-style-type: none"> The four operations (+, -, ×, ÷) with positive whole numbers 	<ul style="list-style-type: none"> Pre-algebra Solve simple number puzzles expressed using words or symbols 	<ul style="list-style-type: none"> Units Select appropriate metric unit to measure a quantity (mL, L, cm, m, km etc) 	<ul style="list-style-type: none"> Shape Names of basic shapes and their basic features Identify by looking at shapes or solids which are the same or similar (the terms "congruence", "similarity" not needed) Names of basic solids and their basic features 	<ul style="list-style-type: none"> Data Complete a basic table Read a column graph (bar chart) Read a basic table Read a two way table Read a picture graph (pictogram) Read a range of common graphs and charts (eg line, tally etc)
		<ul style="list-style-type: none"> Algebra Not tested at this level 	<ul style="list-style-type: none"> Measurement Read scales of integer intervals Read analog and digital clocks Make sensible estimate of number visually Calculate perimeters of polygons, given all lengths of sides 	<ul style="list-style-type: none"> Geometry Not tested at this level 	

Paper E (Calculators are not permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Ordering and comparing positive whole numbers Using place Value Ordering and comparing quarters, halves, tenths and hundredths Odd and Even Numbers Using factors and multiples of whole numbers Ordering and comparing decimals Using prime numbers Rounding to nearest whole number 	<ul style="list-style-type: none"> Patterns Simple number patterns Common number patterns such as square numbers Choose correct description in words of a number pattern 	<ul style="list-style-type: none"> Measures Measure and compare masses, lengths, areas, volumes (and capacities) Measure and compare time in days, months and years Recognise half and quarter turns 	<ul style="list-style-type: none"> Space As with Year 6 and also: <ul style="list-style-type: none"> Identify co-ordinates in first quad Identify and continue patterns based on transformations such as tessellations Combine simple reflections, rotations, translations & enlargements of simple shapes Identify a sequence of transformations that have occurred to a shape 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events based on equally likely outcomes Find numerical probabilities based on relative frequencies
Arithmetic	<ul style="list-style-type: none"> The four operations (+, -, ×, ÷) with positive whole numbers The four operations with percentages Squaring numbers The four operations with negatives Converting between fractions, decimals and percentages 	<ul style="list-style-type: none"> Pre-Algebra Solve simple number puzzles expressed using words or symbols Solve complex number puzzle expressed in words 	<ul style="list-style-type: none"> Units Select appropriate metric unit to measure a quantity (mL, L, cm, m, km etc) Choose appropriate order of magnitude of mass, length, area, volume (capacity) or time Convert between standard decimal units 	<ul style="list-style-type: none"> Shape Names of basic shapes and their basic features Identify by looking at shapes or solids which are the same or similar (the terms "congruence", "similarity" not needed) Names of basic solids and their basic features 	<ul style="list-style-type: none"> Data As with Year 6 and also: <ul style="list-style-type: none"> Complete a two way table Interpret a range of common graphs, charts and statistical diagrams Interpret pie charts Identify correctly drawn pie charts Find modes from simple categorical data Obtain likelihoods from data Find medians Make estimates of future or unknown values from data sets
		<ul style="list-style-type: none"> Algebra Not tested at this level 	<ul style="list-style-type: none"> Measurement As with Year 6 and also: <ul style="list-style-type: none"> Calculate areas of rectangles Calculate areas of shapes based on rectangles 	<ul style="list-style-type: none"> Geometry Calculate internal angles of a triangle Calculate internal angles of a quadrilateral Calculate angle sums based on 90, 180, and 360 degrees 	

Paper B (Calculators are not permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Counting objects Ordering and comparing positive whole numbers Using place Value Ordering and comparing quarters, halves, tenths and hundredths Odd and Even Numbers Using factors and multiples of whole numbers (without using the words "factor" or "multiple") 	<ul style="list-style-type: none"> Patterns Simple number patterns 	<ul style="list-style-type: none"> Measures Measure and compare masses, lengths, areas, volumes (and capacities) Measure and compare time in days, months and years Recognise half and quarter turns Identify angles of the same size Order angles 	<ul style="list-style-type: none"> Space Identify relative position on a picture or map Identify figures with reflection symmetry Identify nets, plans and elevations of 3D figures and vice versa Identify and continue a pattern of shapes Reflect a shape about a given axis (simple) Rotate a shape about a vertex of the shape or its centre 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events
Arithmetic	<ul style="list-style-type: none"> The four operations (+, -, ×, ÷) with positive whole numbers 	<ul style="list-style-type: none"> Pre-algebra Solve simple number puzzles expressed using words or symbols 	<ul style="list-style-type: none"> Units Select appropriate metric unit to measure a quantity (mL, L, cm, m, km etc) 	<ul style="list-style-type: none"> Shape Names of basic shapes and their basic features Identify by looking shapes or solids which are the same or similar (the terms "congruence", "similarity" not needed) Names of basic solids and their basic features 	<ul style="list-style-type: none"> Data Complete a basic table Read a column graph (bar chart) Read a basic table Read a two way table Read a picture graph (pictogram) Read a range of common graphs and charts (eg line, tally etc)
		<ul style="list-style-type: none"> Algebra Not tested at this level 	<ul style="list-style-type: none"> Measurement Read scales of integer intervals Read analog and digital clocks Make sensible estimate of number visually Calculate perimeters of polygons, given all lengths of sides Read scales that have integer intervals with gaps Use time measurement, be familiar with its unusual features (time is not measured in simple decimal units) 	<ul style="list-style-type: none"> Geometry Not tested at this level 	

Paper F (Calculators are permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Using factors and multiples of whole numbers Ordering and comparing all integers including negatives Ordering and comparing decimals Ordering and comparing fractions Using prime numbers Rounding to nearest whole number Rounding to given decimal places 	<ul style="list-style-type: none"> Patterns Common number patterns such as square numbers Completing number patterns where the rule is not given Choose correct description in words of a number pattern Identify an expression for a number pattern (linear) Complete a number pattern (linear) rule given in words 	<ul style="list-style-type: none"> Measures As with Year 7 	<ul style="list-style-type: none"> Space As with Year 7 and also: <ul style="list-style-type: none"> Use simple bearings Plot and identify co-ordinates in all 4 quadrants 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events based on equally likely outcomes Find numerical probabilities based on relative frequencies
Arithmetic	<ul style="list-style-type: none"> Squaring numbers The four operations with percentages The four operations with negatives Converting between fractions, decimals and percentages Four operations with fractions Square roots Indices and powers Proportions stated using combinations of fractions, decimals, percentages, ratios 	<ul style="list-style-type: none"> Algebra Solve complex number puzzle expressed in words Solve a linear equation with one unknown Given a variety of constraints on x choose a possible value Collect terms in an expression Choose a correct expression of a relation given in words Change the subject of a formula Substitute values into an expression Identify plots of values of a function on a graph Identify an algebraic formula (linear) derived from a situation 	<ul style="list-style-type: none"> Units As with Year 7 	<ul style="list-style-type: none"> Shape As with Year 7 and also: <ul style="list-style-type: none"> Symmetry problems using solids 	<ul style="list-style-type: none"> Data As with Year 7
		<ul style="list-style-type: none"> Algebra As with Year 7 and also: <ul style="list-style-type: none"> Estimate angles ± 20 degrees or less Calculate perimeters of rectangles or shapes based on rectangles (not all lengths given) Calculate circumferences and areas of circles Calculate volumes of shapes based on rectangular prisms Find surface areas of prisms 	<ul style="list-style-type: none"> Geometry Calculate internal angles of a triangle Calculate internal angles of a quadrilateral Calculate angle sums based on 90, 180 and 360 degrees Identify angle categories: acute, obtuse and reflex Solve simple angle problems with line crossing 2 parallel lines 		

Paper C (Calculators are not permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Ordering and comparing positive whole numbers Using place Value Ordering and comparing quarters, halves, tenths and hundredths Using factors and multiples of whole numbers (without using the words "factor" or "multiple") Ordering and comparing decimals Using prime numbers Rounding to nearest whole number 	<ul style="list-style-type: none"> Patterns Simple number patterns 	<ul style="list-style-type: none"> Measures Measure and compare masses, lengths, areas, volumes (and capacities) Measure and compare time in days, months and years Recognise half and quarter turns 	<ul style="list-style-type: none"> Space Identify relative position on a picture or map Identify figures with reflection symmetry Identify nets, plans and elevations of 3D figures and vice versa Identify and continue a pattern of shapes Reflect a shape about a given axis (simple) Rotate a shape about a vertex of the shape or its centre 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events
Arithmetic	<ul style="list-style-type: none"> The four operations (+, -, ×, ÷) with positive whole numbers The four operations (+, -, ×, ÷) with decimals 	<ul style="list-style-type: none"> Pre-algebra Solve simple number puzzles expressed using words or symbols Solve complex number puzzle expressed in words 	<ul style="list-style-type: none"> Units Select appropriate metric unit to measure a quantity (mL, L, cm, m, km etc) Choose appropriate order of magnitude of mass, length, area, volume (capacity) or time 	<ul style="list-style-type: none"> Shape Names of basic shapes and their basic features Identify by looking at shapes or solids which are the same or similar (the terms "congruence", "similarity" not needed) Names of basic solids and their basic features 	<ul style="list-style-type: none"> Data Complete a basic table Read a column graph (bar chart) Read a basic table Read a two way table Read a picture graph (pictogram) Read a range of common graphs and charts (eg line, tally etc)
		<ul style="list-style-type: none"> Algebra Not tested at this level 	<ul style="list-style-type: none"> Measurement As with Year 4 and also: <ul style="list-style-type: none"> Read scales of decimal intervals with gaps Convert between standard decimal units 	<ul style="list-style-type: none"> Geometry Not tested at this level 	

Paper G & H (Calculators are permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Using factors and multiples of whole numbers Ordering and comparing all integers including negatives Ordering and comparing decimals Ordering and comparing fractions Using prime numbers Rounding to nearest whole number Rounding to given decimal places Rounding to given significant figures 	<ul style="list-style-type: none"> Patterns Common number patterns such as square numbers Completing number patterns where the rule is not given Choose correct description in words of a number pattern Identify an expression for a number pattern (linear) Complete a number pattern (linear) rule given in words 	<ul style="list-style-type: none"> Measures As with Year 8 	<ul style="list-style-type: none"> Space As with Year 8 and also: <ul style="list-style-type: none"> Solve bearing problems Use co-ordinates to transform more complex shapes & identify final coordinates 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events based on equally likely outcomes Find numerical probabilities based on relative frequencies
Arithmetic	<ul style="list-style-type: none"> Squaring numbers The four operations with percentages The four operations with negatives Converting between fractions, decimals and percentages The four operations with fractions Square roots Indices and powers Proportions stated using combinations of fractions, decimals, percentages, ratios Operations with scientific notation (standard form) 	<ul style="list-style-type: none"> Algebra As with Year 8 and also: <ul style="list-style-type: none"> Given a simple inequality choose a possible value for x Solve simultaneous equation with two unknowns Identify a linear graph from function with marked axes Solve simultaneous linear equation from graph Identify sketch of linear graph from function without marked axes 	<ul style="list-style-type: none"> Units As with Year 8 	<ul style="list-style-type: none"> Shape As with Year 8 	<ul style="list-style-type: none"> Data As with Year 8 and also: <ul style="list-style-type: none"> Calculate internal angles of a triangle Calculate internal angles of a quadrilateral Calculate angle sums based on 90, 180 and 360 degrees Identify angle categories: acute, obtuse and reflex Solve simple angle problems with line crossing 2 parallel lines Solve angle problems with polygons (not triangles or rectangles)
		<ul style="list-style-type: none"> Algebra As with Year 8 and also: <ul style="list-style-type: none"> Calculate areas and perimeters of polygons Calculate parts of circumferences and areas of circles Calculate areas and perimeters of triangles Use congruence or similarity to calculate measures Find volumes of prisms and cylinders Find missing lengths of right angled triangles using Pythagoras 	<ul style="list-style-type: none"> Geometry Calculate internal angles of a triangle Calculate internal angles of a quadrilateral Calculate angle sums based on 90, 180 and 360 degrees Identify angle categories: acute, obtuse and reflex Solve simple angle problems with line crossing 2 parallel lines 		

Paper D (Calculators are not permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Ordering and comparing positive whole numbers Using place Value Ordering and comparing quarters, halves, tenths and hundredths Odd and Even Numbers Using factors and multiples of whole numbers (without using the words "factor" or "multiple") Ordering and comparing decimals Using prime numbers Rounding to nearest whole number Ordering and comparing fractions 	<ul style="list-style-type: none"> Patterns Simple number patterns Common number patterns such as square numbers Choose correct description in words of a number pattern 	<ul style="list-style-type: none"> Measures Measure and compare masses, lengths, areas, volumes (and capacities) Measure and compare time in days, months and years Recognise half and quarter turns 	<ul style="list-style-type: none"> Space Identify relative position on a picture or map Identify figures with reflection symmetry Identify nets, plans and elevations of 3D figures and vice versa Identify and continue a pattern of shapes Reflect a shape about a given axis (simple) Rotate a shape about a vertex of the shape or its centre 	<ul style="list-style-type: none"> Chance Simple estimates of probability in words Order events on rough likelihoods Find possible arrangements of sets of objects and events
Arithmetic	<ul style="list-style-type: none"> The four operations (+, -, ×, ÷) with positive whole numbers The four operations (+, -, ×, ÷) with decimals Squaring numbers 	<ul style="list-style-type: none"> Pre-algebra Solve simple number puzzles expressed using words or symbols Solve complex number puzzle expressed in words 	<ul style="list-style-type: none"> Units Select appropriate metric unit to measure a quantity (mL, L, cm, m, km etc) Choose appropriate order of magnitude of mass, length, area, volume (capacity) or time Convert between standard decimal units 	<ul style="list-style-type: none"> Shape Names of basic shapes and their basic features Identify by looking at shapes or solids which are the same or similar (the terms "congruence", "similarity" not needed) Names of basic solids and their basic features 	<ul style="list-style-type: none"> Data Complete a basic table Read a column graph (bar chart) Read a basic table Read a two way table Read a picture graph (pictogram) Read a range of common graphs and charts (eg line, tally etc)
		<ul style="list-style-type: none"> Algebra Not tested at this level 	<ul style="list-style-type: none"> Measurement As with Year 5 	<ul style="list-style-type: none"> Geometry Not tested at this level 	

Paper I & J (Calculators are permitted)

	Number and Arithmetic	Algebra and Patterns	Measures and Units	Space and Geometry	Chance and Data
Number	<ul style="list-style-type: none"> Using factors and multiples of whole numbers Ordering and comparing all integers including negatives Ordering and comparing decimals Ordering and comparing fractions Using prime numbers Rounding to nearest whole number Rounding to given decimal places Rounding to given significant figures 	<ul style="list-style-type: none"> Patterns Common number patterns such as square numbers Completing number patterns where the rule is not given Choose correct description in words of a number pattern Identify an expression for a number pattern Complete a number pattern rule given in words 	<ul style="list-style-type: none"> Measures As with Year 9 	<ul style="list-style-type: none"> Space As with Year 9 	<ul style="list-style-type: none"> Chance As with Year 9 and also: <ul style="list-style-type: none"> Find probabilities of independent compound events Find probabilities of dependent compound events Listing possible outcomes of simple compound events
Arithmetic	<ul style="list-style-type: none"> Squaring numbers The four operations with percentages The four operations with negatives Converting between fractions, decimals and percentages The four operations with fractions Square roots Indices and powers Proportions stated using combinations of fractions, decimals, percentages and ratios Operations with scientific notation (standard form) 	<ul style="list-style-type: none"> Algebra As with Year 9 and also: <ul style="list-style-type: none"> Complex inequality problems Solve a quadratic equation with one unknown Solve an inequality (linear) giving a simple range for x Identify plots of values of a function (quadratic) Identify the graph of a given quadratic function with marked axes Identify the graph of a quadratic function as a graph without marked axes Identify an algebraic formula (quadratic) derived from a context 	<ul style="list-style-type: none"> Units As with Year 9 	<ul style="list-style-type: none"> Shape As with Year 9 	<ul style="list-style-type: none"> Data As with Year 9 and also: <ul style="list-style-type: none"> Group continuous data Find estimates of median and/or mean for grouped data Find modal class of group data Use averages and ranges to compare sets of data Identify relationships from scatter graph Extrapolate and interpolate from graphical data (technical terms not needed)
		<ul style="list-style-type: none"> Algebra As with Year 8 and also: <ul style="list-style-type: none"> Calculate areas and perimeters of polygons Calculate parts of circumferences and areas of circles Calculate areas and perimeters of triangles Use congruence or similarity to calculate measures Find volumes of prisms and cylinders Find missing lengths of right angled triangles using Pythagoras 	<ul style="list-style-type: none"> Geometry Calculate internal angles of a triangle Calculate internal angles of a quadrilateral Calculate angle sums based on 90, 180 and 360 degrees Identify angle categories: acute, obtuse and reflex Solve simple angle problems with line crossing 2 parallel lines Solve angle problems with polygons (not triangles or rectangles) 		