
















Curriculum Overview for Mathematics


Year 9

<p>A8: Linear Inequalities</p> <p>Declarative knowledge:</p> <ul style="list-style-type: none"> Know the inequality symbols Know the axes on a graph (H) Know how to read a number line <p>Procedural knowledge:</p> <ul style="list-style-type: none"> Represent a single inequality on a number line Read an inequality from a number line Represent a restrictive inequality on a number line Read a restrictive inequality from a number line Solve a linear inequality State integer solutions to a linear inequality Solve a restricted inequality <p>Contextual knowledge:</p> <ul style="list-style-type: none"> Solve an inequality where division/multiplication of a negative is required Solve a system of linear inequalities Form an inequality from a description Represent simple inequalities graphically 		<p>Reading like a Mathematician</p> <p>Subject specific vocabulary</p> <p>definitions and choral response</p> <p>Reading reasoning and problem-solving questions</p>
		<p>Inequality</p> <p>$<$ - less than</p> <p>$>$ - greater than</p> <p>\leq - less than or equal to</p> <p>\geq - greater than or equal to</p> <p>$=$ - equal to</p> <p>\neq - not equal to</p> <p>Number Line</p> <p>Linear Inequality</p> <p>Solution Set</p> <p>Integer Solutions</p> <p>System of Inequalities</p> <p>Cartesian Grid</p> <p>Shading</p> <p>Open Circle</p> <p>Closed Circle</p> <p>Forming an Inequality</p> <p>Graphical Representation</p>
		<p>End of unit assessment with feedback lesson to address misconceptions</p> <p>Content from this unit will be included in the formal endpoint assessment</p>
		<p>1 hour of Sparx Maths homework needs to be completed every week</p> <p>Revision for formal assessment using provided revision booklet</p>

<p>NP12: Standard Form</p> <p>Declarative knowledge:</p> <ul style="list-style-type: none"> Place value of integers and decimals Multiplying and dividing by powers of 10 Addition and subtraction with integers and decimals Multiplication and division with integers and decimals Calculating with powers and roots Using the correct order of operations Simplifying indices with multiplication, division and brackets Inequality notation <p>Procedural knowledge:</p> <ul style="list-style-type: none"> Write large numbers in standard form Convert large numbers from standard form Write small numbers in standard form Convert small numbers from standard form Recognise when numbers are in correct standard form Adjust numbers that are not in correct standard form to correct standard form Write numbers given in standard form and ordinary form in order Multiply standard form without a calculator Divide standard form without a calculator Add and subtract standard form without a calculator by converting to ordinary form Calculate with standard form with a calculator <p>Contextual knowledge:</p> <ul style="list-style-type: none"> Work with standard form conversions with measures Create standard form from fractions Create standard form from an integer raised to a power Adjust numbers that have been written with division instead of multiplication Add and subtract with standard form by adjusting the exponents Solve worded problems involving calculations with standard form 		<p>Reading like a Mathematician Subject specific vocabulary definitions and choral response Reading reasoning and problem-solving questions</p>
		<p>Standard form Large number Small number Ordinary form Convert to standard form Convert from standard form Power of 10 Positive power of 10 Negative power of 10 Adjust to correct standard form Ordering numbers Add and subtract standard form Calculator standard form</p>
		<p>End of unit assessment with feedback lesson to address misconceptions Content from this unit will be included in the formal endpoint assessment</p>
		<p>1 hour of Sparx Maths homework needs to be completed every week</p> <p>Revision for formal assessment using provided revision booklet</p>

A9: Contextual Graphs Disciplinary knowledge <ul style="list-style-type: none"> Identify x- and y-axes Recall calculating the gradient of a linear graph Recall finding the y-intercept of a graph Recognise units of measurement for speed, distance and time Procedural knowledge <ul style="list-style-type: none"> Read values from a graph Interpret the gradient of a contextual graph Interpret the y-intercept of a contextual graph Construct contextual graphs from a table of values Construct speed-time graphs Construct distance-time graphs Contextual knowledge <ul style="list-style-type: none"> Convert values using a conversion graph, such as currency Construct contextual graphs from a formula Interpret speed from a speed-time graph Interpret distance from a distance-time graph Reason and problem-solve with contextual graphs 		Reading like a Mathematician Subject specific vocabulary definitions and choral response Reading reasoning and problem-solving questions
		x-axis, y-axis, gradient, linear, y-intercept, distance, time, speed, miles per hour (mph), kilometers per hour (km/h), speed-time, distance-time, formula
		End of unit assessment with feedback lesson to address misconceptions Content from this unit will be included in the formal endpoint assessment
		1 hour of Sparx Maths homework needs to be completed every week Revision for formal assessment using provided revision booklet

SP3: Introduction to Probability Disciplinary knowledge <ul style="list-style-type: none"> Know the language of probability Know the notation of probability Know the probabilities of mutually exclusive events sum to 1 Procedural knowledge <ul style="list-style-type: none"> Use systematic listing (product rule for counting) Record, describe and analyse the frequency of outcomes of simple probability experiments Calculate theoretical probability Construct theoretical sample spaces Calculate the probability of 'and' events Calculate the probability of 'or' events 		Reading like a Mathematician Subject specific vocabulary definitions and choral response Reading reasoning and problem-solving questions
		Systematic, relative frequency, outcome, event, fair, biased, mutually exclusive, independent, set, universal set, intersection, elements
		End of unit assessment with feedback lesson to address misconceptions Content from this unit will be included in the formal endpoint assessment

<p>Contextual knowledge</p> <ul style="list-style-type: none"> • Represent possible outcomes on a frequency tree • Represent possible outcomes on a tree diagram • Represent possible outcomes on a two-way table • Represent possible outcomes on a simple Venn diagram • Use sample space diagrams to calculate probability • (H) Draw and interpret tree diagrams and associated probabilities for dependent events • (H) Calculate complex probability problems involving forming and solving algebraic equations • (H) Calculate 'given that' problems 		<p>1 hour of Sparx Maths homework needs to be completed every week</p> <p>Revision for formal assessment using provided revision booklet</p>
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At this point Year 9 will complete a pre-GCSE check.