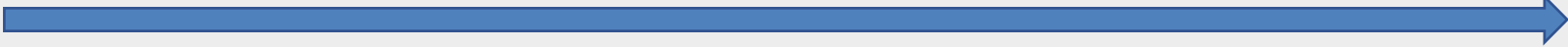


KS4 Mathematics Curriculum Coverage: 2025-26

Year 10F Spring Term 					
Sequenced	Non-calculator methods	Straight line graphs	Probability	Rounding and estimation	Perimeter, area and volume
Key Knowledge	<p>To know:</p> <ul style="list-style-type: none">strategies to add, subtract, multiply and divide integers mentallystrategies to add, subtract, multiply and divide decimals mentallymultiplication tables to allow easy recallhow to place integers and decimals in place value chartshow to place directed numbers on a number linehow to use a number line to add and subtractthat there is an order of operations that must be applied (BIDMAS)	<p>To know:</p> <ul style="list-style-type: none">how to plot coordinates in four quadrantshow to substitute numbers in place of letterslines $x = a, y = b, y = x, y = -x$the shape of linear and quadratic graphsthe equation of a line is $y = mx + c$m is the gradient, understand how this affects the steepness of the linec is the y interceptlines with the same gradient are parallel	<p>To know:</p> <ul style="list-style-type: none">probability adds up to 1 (or 100%).That probabilities are represented by fractions and decimalshow to carry out basic calculations with fractionsthe probability of an event not occurring = $1 - n$ probability of the event occurring.the meaning of the words biased and fair.the greater the number of trials the more accurate the results will be.there is a difference between theoretical and experimental probabilitiesthe difference between independent and dependent events	<p>To know:</p> <ul style="list-style-type: none">that decimals can be represented on a number linethe difference between decimal places and significant figureshow to calculate mentally with multiples of 10the basic operations on a scientific calculatorinequality symbolsthe concept of upper and lower bounds	<p>To know:</p> <ul style="list-style-type: none">the difference between 2-D and 3-D shapesthe difference between area and perimeterthat a compound shape is made by putting 2-D shapes togetherthe units of perimeter are mm, cm, mthe units of area are mm^2, cm^2, m^2pi (π) has an approximate value of 3.142
Key Skills	<p>To be able to:</p> <ul style="list-style-type: none">understand place value using integers and decimalscompare integers and decimals and order themuse non calculator methods to add and subtract integers and decimalsuse non calculator methods to multiply integers and decimalsuse the four operations with directed numbersunderstand and apply the order of operations to a range of calculationssolve multi step problems	<p>To be able to:</p> <ul style="list-style-type: none">plot straight line graphs by plotting coordinatesfind solutions to equations by plotting straight line graphsfind the gradient of a line and compare lines with different gradientsrepresent graphs given the equation $y = mx + c$find the equation of a line when the graph is givenfind the midpoint of a line segmentfind the equation of a straight-line graph given one point and the gradientfind the equation of a straight-line graph given two pointsdraw and interpret real-life straight-line graphs	<p>To be able to:</p> <ul style="list-style-type: none">find the probability of a single eventuse the property that probabilities sum to 1 to calculate missing valueslist outcomescalculate relative frequencydraw and interpret sample space diagrams for one or more eventsdraw and interpret two-way tablesdraw and interpret frequency treescalculate the probability of independent events and represent them on tree diagramsdraw and interpret tree diagrams for dependent events	<p>To be able to:</p> <ul style="list-style-type: none">round numbers to a given number of decimal placesround numbers to a given number of significant figuresestimate answers to calculationsuse a calculator for the four operations, brackets, indices and rootsrepresent error intervals (rounding and truncating) as inequalities	<p>To be able to:</p> <ul style="list-style-type: none">name 2-D and 3-D shapescalculate the perimeter of a 2-D shape (square, rectangle, triangle, parallelogram, trapezium)calculate the area of a 2-D shape (square, rectangle, triangle, parallelogram, trapezium)calculate the area of a compound shaperecognise and label the parts of a circlecalculate the circumference of a circlecalculate the area of a circle
Subject specific vocabulary	add, subtract, multiply, divide, decimal, place value, integer, directed number, negative, brackets, indices	table of values, x axis, y axis, horizontal, vertical, parallel, intercept, y-intercept, straight line, equation, graph, coordinate, gradient, real life	impossible, certain, likely, unlikely, even chance, probability, outcome, event, experimental, theoretical, frequency tree, probability tree diagram, relative frequency, expected outcomes, dependent events, independent events, sample space diagram, bias, fair	decimal place, significant figures, rounding, error interval, upper bound, lower bound, truncate	2-D shape, 3-D shape, square, rectangle, triangle, parallelogram, trapezium, circle, compound shape, area, perimeter, circumference, arc, radius, diameter, chord, sector, segment, tangent, cube, cuboid, cone, cylinder, sphere, prism, pyramid, pi