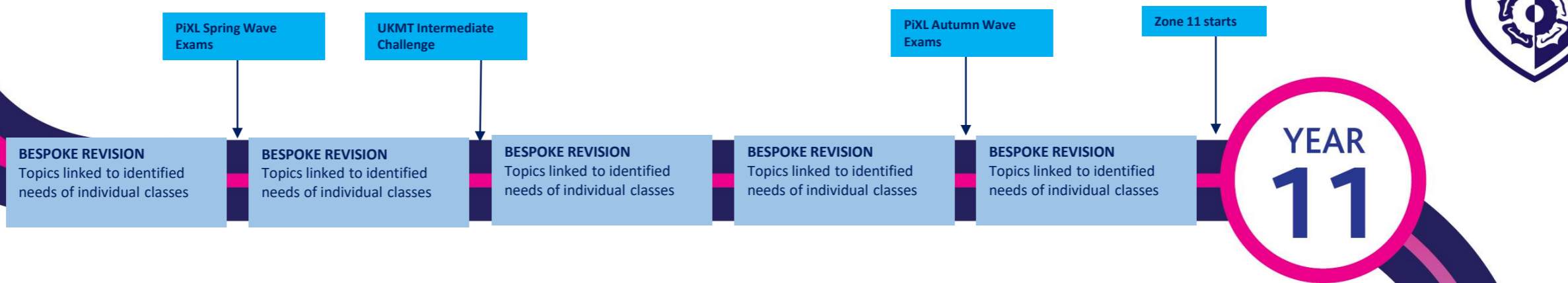


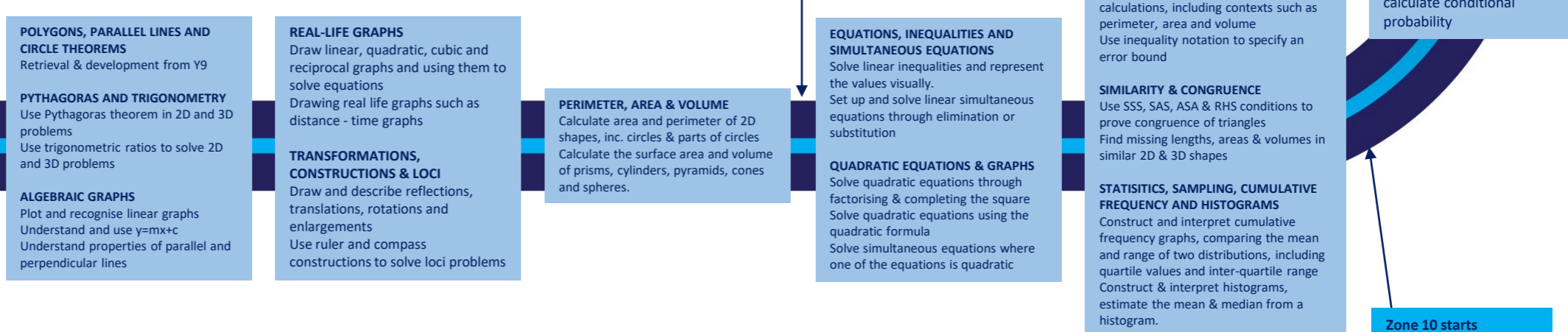
MATHS HIGHER CURRICULUM



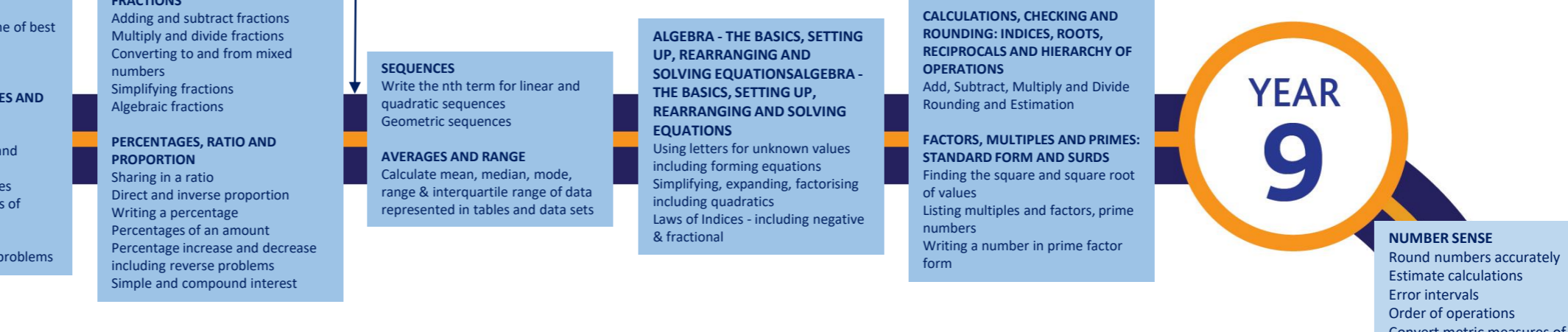
- A levels: Maths / Further Maths
- University: Russell group & Oxbridge
- Business, Accountancy & Finance
- Engineering, Aviation, Applied Science
- Computer game coding



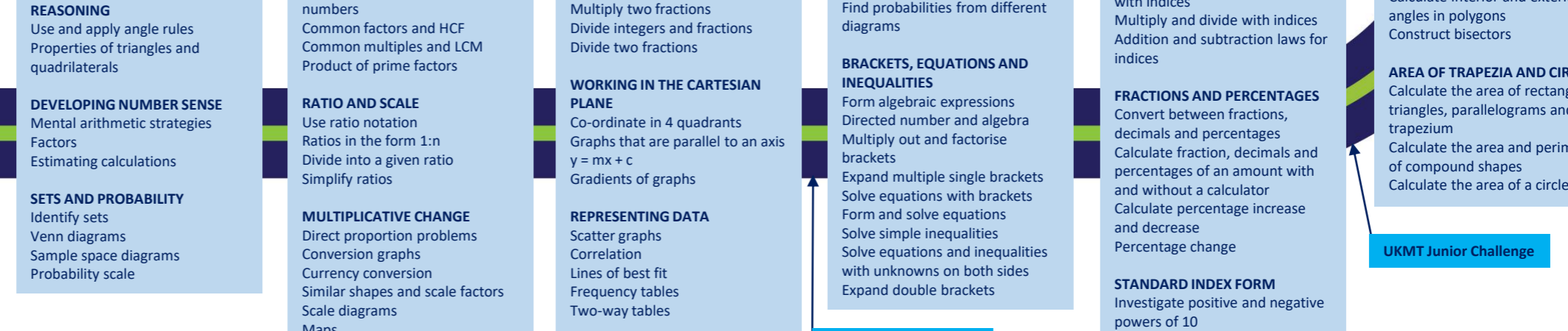
YEAR 10



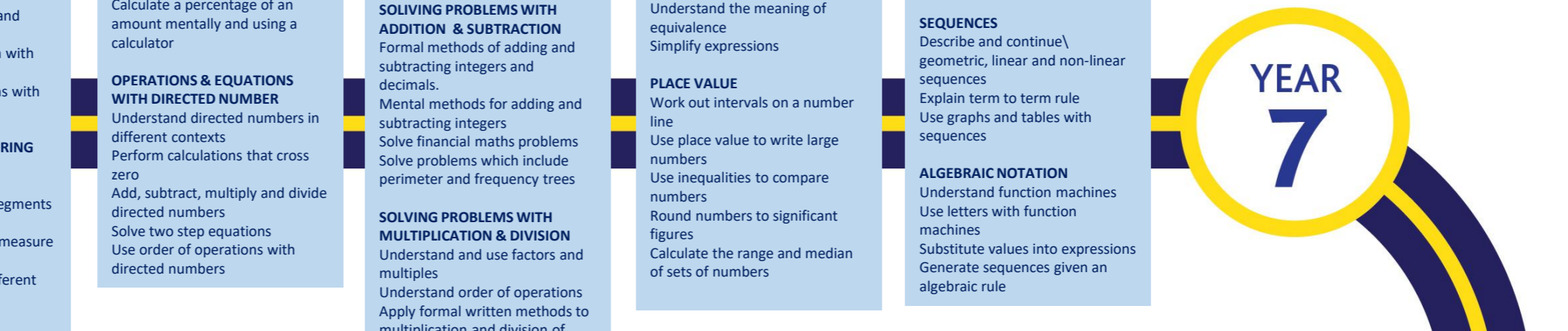
YEAR 9



YEAR 8



YEAR 7



PYTHAGORAS & TRIGONOMETRY
Calculate a side length or an angle for right angled triangles
Know specific values for trigonometry

REPRESENTING & INTERPRETING DATA
Histograms
Time Series Graphs and Trends
Comparative Pie Charts
Scatter graphs including line of best fit and correlation
Further interpretation

POLYGONS, PARALLEL LINES AND CIRCLE THEOREMS
Basic angle rules
Rules related to isosceles and equilateral triangles
Parallel lines and angle rules
Interior and exterior angles of polygons
Circle Theorems
Use of algebra with angle problems

FRACTIONS
Adding and subtract fractions
Multiply and divide fractions
Converting to and from mixed numbers
Simplifying fractions
Algebraic fractions

PERCENTAGES, RATIO AND PROPORTION
Sharing in a ratio
Direct and inverse proportion
Writing a percentage
Percentages of an amount
Percentage increase and decrease including reverse problems
Simple and compound interest

SEQUENCES
Write the nth term for linear and quadratic sequences
Geometric sequences

AVERAGES AND RANGE
Calculate mean, median, mode, range & interquartile range of data represented in tables and data sets

ALGEBRA - THE BASICS, SETTING UP, REARRANGING AND SOLVING EQUATIONS
Using letters for unknown values including forming equations
Simplifying, expanding, factorising including quadratics
Laws of Indices - including negative & fractional

CALCULATIONS, CHECKING AND ROUNDING: INDICES, ROOTS, RECIPROCAL AND HIERARCHY OF OPERATIONS
Add, Subtract, Multiply and Divide
Rounding and Estimation

FACTORS, MULTIPLES AND PRIMES: STANDARD FORM AND SURDS
Finding the square and square root of values
Listing multiples and factors, prime numbers
Writing a number in prime factor form

NUMBER SENSE
Round numbers accurately
Estimate calculations
Error intervals
Order of operations
Convert metric measures of length, area and volume

ANGLES IN POLYGONS AND PARALLEL LINES
Understand and use basic angle rules
Investigate angles in parallel lines
Identify and use alternate, corresponding and co-interior angles
Construct shapes
Calculate interior and exterior angles in polygons
Construct bisectors

AREA OF TRAPEZIA AND CIRCLES
Calculate the area of rectangles, triangles, parallelograms and trapezium
Calculate the area and perimeter of compound shapes
Calculate the area of a circle

DEVELOPING GEOMETRIC REASONING
Understand and apply angles rules

DEVELOPING NUMBER SENSE
Derive calculations from known facts
Estimate answers to calculations
Apply mental methods to calculations

SETS AND PROBABILITY
Understand and use the probability scale
Calculate the probability of a single event
Generate sample spaces and venn diagrams
Understand what is meant by set, union and intersection

ADDITION AND SUBTRACTION OF FRACTIONS
Convert between mixed and improper fractions
Add and subtract fraction with the same denominator
Add and subtract fractions with different denominators

CONSTRUCTING, MEASURING AND USING GEOMETRIC NOTATION
Draw and measure line segments and angles
Understand angles are a measure of a turn
Identify polygons and different types of line
Construct triangles
Draw and interpret pie charts

FDP OF AN AMOUNT
Calculate a fraction of an amount
Calculate a percentage of an amount mentally and using a calculator

OPERATIONS & EQUATIONS WITH DIRECTED NUMBER
Understand directed numbers in different contexts
Perform calculations that cross zero
Add, subtract, multiply and divide directed numbers
Solve two step equations
Use order of operations with directed numbers

FDP EQUIVALENCE
Represent tenths and hundredths on diagrams
Convert fluently between fractions, decimals and percentages
Use and interpret pie charts
Identify equivalent fractions

SOLVING PROBLEMS WITH ADDITION & SUBTRACTION
Formal methods of adding and subtracting integers and decimals.
Mental methods for adding and subtracting integers
Solve financial maths problems
Solve problems which include perimeter and frequency trees

SOLVING PROBLEMS WITH MULTIPLICATION & DIVISION
Understand and use factors and multiples
Understand order of operations
Apply formal written methods to multiplication and division of integers and decimals
Solve problems involving area and the mean

EQUALITY & EQUIVALENCE
Understand like terms
Solve simple equations
Understand the meaning of equivalence
Simplify expressions

PLACE VALUE
Work out intervals on a number line
Use place value to write large numbers
Use inequalities to compare numbers
Round numbers to significant figures
Calculate the range and median of sets of numbers

PENTOMINOS
Problem solving

SEQUENCES
Describe and continue geometric, linear and non-linear sequences
Explain term to term rule
Use graphs and tables with sequences

ALGEBRAIC NOTATION
Understand function machines
Use letters with function machines
Substitute values into expressions
Generate sequences given an algebraic rule