

Act Fast NL Year 8 KS3 Maths

Autumn 01

Ratio & Scale

- Understand ratio and its link to multiplication
- Use ratio notation
- Reduce ratios to simplest form
- Solve ratio problems
- Calculate the circumference of a circle

Multiplicative Change

- Use scale factors, linking to ratio, to solve direct proportion problems
- Convert between currencies, including graphs
- Draw and interpret scale diagrams and maps

Multiplying & Dividing Fractions

- Multiply & divide a fraction by an integer
- Multiply & divide a fraction by a fraction
- Understand and use the reciprocal

Spring 01

Brackets, Equations & Inequalities

- Expand and factorise into single brackets
- Form and use expressions, formulae and identities
- Form and solve equations and inequalities with and without brackets
- Distinguish between equations, expressions, formulae and identities

Sequences

- Generate sequences using more complex rules, e.g.; with brackets and squared terms, both in words and algebraically

Indices

- Form expressions using indices
- Understand how to use the addition and subtraction rules

Summer 01

Angles in Parallel Lines & Polygons

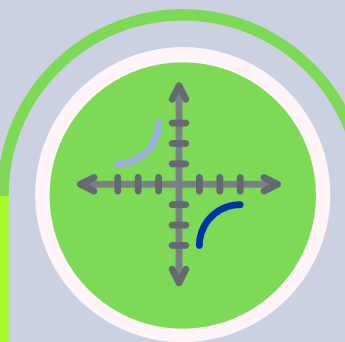
- Review Y7 angle parallel lines
- Understand and use parallel lines and angles
- Revisit geometric notion
- Work out angles in special quadrilaterals
- Find & use the sum of interior and exterior angles of a polygon
- Prove simple geometric

Area of Trapezia & Circles

- Review area of shapes covered in Y7
- Calculate the area of a trapezium
- Calculate the area of a circle and the area of parts of a circle
- Use significant figures
- Calculate the area of compound shapes

Line symmetry & Reflection

- Recognise line symmetry in polygons and other shapes
- Reflect shapes in horizontal, vertical and diagonal lines



Autumn 02

Working in the Cartesian Plane

- Plot and interpret straight line graphs
- Understand & use the equations of a straight line, including lines parallel to the axes
- Make links between direct proportion and straight lines of the form $y = kx$

- Model situations by translating them into expressions, formulae and graphs

Representing Data

- Draw and interpret scatter graphs
- Understand correlation
- Draw and use lines of best fit
- Understand grouped & ungrouped, discrete and continuous data
- Design and use on and two-way tables

Probability

- List outcomes using sample space diagrams for one and two events
- Find probabilities using tables and Venn diagrams



Spring 02

Fractions & Percentages

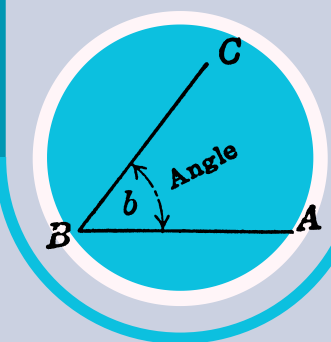
- Develop understanding of fractions, decimals and percentages
- Evaluate percentage increases and decreases
- Use multipliers to solve percentage problems
- Express one number as a percentage of another

Standard Index Form

- Convert between numbers and ordinary & standard form
- Compare numbers given in standard form
- Calculate with numbers given in standard form, with and without a calculator

Number sense

- Develop mental strategies
- Convert between metric measures and units
- Estimation, including rounding to a given number of decimal places
- Use the order of operations



Summer 02

Data Handling Cycle

- Understand and use primary and secondary resources of data
- Collect data, including questionnaires
- Interpret & construct statistical diagrams, including multiple bar charts
- Construct & interpret pie charts
- Compare distributions using charts
- Identify misleading graphs

Measures of Location & Dispersion

- Revisit the median & mean, including finding the total given mean
- Find the mean of grouped data
- Work out the mode and modal class
- Choose the appropriate average
- Comparing distributions using measures

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