

# Act Fast NL Year 11 KS3 Maths

## Autumn 01

### Gradients & Lines

Find and use equations of straight lines

### Non-Linear Graphs

Plot & read from quadratic curves

Understand and find roots

Plot cubic and reciprocal graphs

### Using Graphs

Reflect shapes in a given line

Construct and interpret speed, distance and time graphs

Construct and interpret real-life graphs

## Spring 01

### Multiplicative Reasoning

Review scale and enlargement

Work with direct and inverse proportion

Calculate with pressure and density

Determine whether a problem requires additive or multiplicative reasoning

## Summer 01

### Revision

Past papers

Personalised revision topics dependent on individual learner needs

$$\frac{x}{a} + \frac{y}{b} = 1$$

## Autumn 02

### Expanding & Factorising

Expand a single bracket and binomials

Factorise into a single bracket

Factorise quadratics of the form  $x^2 + bx + c$

Solve quadratic equations

Simplify complex algebraic expressions including algebraic fractions

### Changing the Subject

Review solving linear equations

Change the subject formula, including perimeter, area and volume formulae

Volume of a pyramid

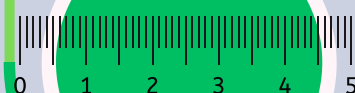
### Functions

Find inputs and outputs

Show algebraic expressions are equivalent

Solve problems using kinematics formulae

$$a^2 + b^2 = c^2$$



## Spring 02

### Geometric Reasoning

Review Angle facts, focusing on the language of reasons and chains of reasoning

Review Pythagoras' theorem and using trigonometrical ratio

### Fractions & Percentages of Amounts

Work with complex indices

Review simplification of complex expressions and finding the nth term rule

Justify e.g. why a number is / isn't in a given sequence



## Summer 02

Complete!

