

Teaching and Learning Content: Mathematics
Year Group: 9 Higher
Autumn Term – Half Term 3



Topics:

Algebra – Equations & Formulae
 Algebra – Solving Equations Graphically

Home Learning:

Students are expected to complete one piece of home learning every week as well as addressing areas that they have recorded as requiring further attention via their Personal Learning Checklist. The PLC links to corresponding MathsWatch clips and practice questions

Key Questions:

- Expand $2x(2x - 5y)$
- Factorise $7y + 21xy$
- Solve the equation $5x + 2 = 2x + 8$
- Make p the subject, $4p-5= t$
- Plot the line of $y=2x+5$ for x values from -2 to 2
- Does the point $(2,7)$ lie on the line $y=2x+1$?
- Plot the curve for $y = x^2 - 2$
- Use a graph to solve the simultaneous equations $y = 2x$ and $y = x + 1$

Diagnosis

- 10 question diagnosis tests for each half term
- Retrieval activities from knowledge organisers like starter quizzes
- Mini whiteboard activities

Students will:

- To expand brackets and simplify more complex expressions
- To factorise more complex expressions
- To expand and factorise expressions with more than one variable
- To solve equations where the variable is in the denominator of a fraction
- To multiply out (or expand) two brackets
- To multiply out three or more brackets
- To factorise quadratic expressions with positive and negative coefficients
- To recognise and use the difference of two squares to solve an equation
- To draw any linear graph from its equation
- To solve a linear equation graphically
- To solve a pair of simultaneous equations graphically
- To solve cubic equations graphically

Therapy

- Sharing model responses (teacher/student led feedback)
- DIRT tasks
- Peer to peer support in lessons
- Specific highlighted lessons for students

Testing

- Students will complete an assessment each half term from which they will receive a detailed QLA to continue to highlight areas of weakness into the next half term.