# REMOTE LEARNING MODULE

Subject: Mathematics
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Updated:

| Subject: | Mathematics | | | Teacher (if applicable): | | | |
|---|---|---|---|---|---|---|---|
| Year: | 10 | | | Ability/Class (if applicable): | | Higher | |
| Module title: | Algebraic Skills | | | | | | |
| Duration: | 2 weeks ☒ | 4 weeks ☐ | 6 weeks ☐ | 8 weeks ☐ | Other: | | |

# Intent

| Intent Statement - at Landau Forte Amington, we believe learning powerful knowledge helps students achieve and creates a fairer society. How are you trying to accomplish this, with this module? |
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| This module is designed to be delivered remotely to allow students to continue to access a well-constructed and relevant curriculum to enable them to have appropriate maths skills to succeed in life. In particular, this module focuses on ratio and proportion which have significant links to real life, especially the arts, cooking and the use of money |
| Aims - what do you want pupils to be able to know and do by the time they finish this module? |
| Algebraic Skills<br>• Expanding single and double brackets<br>• Factorising polynomials<br>• Collecting Like Terms<br>• Laws of Indices<br>Equations<br>• Forming and solving linear equations. |
| Academy values – at Landau Forte Amington, we want students to be ambitious, brave and kind. How are these values promoted in this module? |
| • Ambitious – aims to quickly and effectively fill gaps then progress to existing SOL<br>• Brave – encourage students to persevere and show resilience through problem solving tasks<br>• Kind – Culture of error fostered, classroom rules clearly established to support learning without ridicule |

| Content – what is being covered, ensuring breadth & depth? | National Curriculum/Exam Specification - how does the content link to the NC or Exam Spec? |
|---|---|
| Covers a range of skills and content overlapping the Year 9 and Year 10 scheme of learning to "recover" lost learning and further develop student learning. | |

| Powerful Knowledge - what powerful knowledge is included in this module? Consider what knowledge is it important for our students to know, so that when they leave school they can engage in and lead discussions, with people from the most advantaged backgrounds? | |
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# Implementation

## KEY CONCEPTS

| **Key Concepts** – what are the key concepts being taught? | **Progression** – how will studying these key concepts support progression to the next academic year, or key stage? |
|---|---|
| Algebraic Skills<br>• Expanding single and double brackets<br>• Factorising polynomials<br>• Collecting Like Terms<br>• Laws of Indices<br>Equations<br>Forming and solving linear equations. | Bridges gaps between Yr11 and Yr10 SOLs, builds using spiral curriculum already planned |

## LEARNING

| **Synchronous** – what are the synchronous aspects of the module, including new material taught? | **Asynchronous** – what are the asynchronous aspects of the module, including deliberate practice? |
|---|---|
| 3 live lessons and DIRT lesson after cycle<br>1. Expanding and Factorising (revisit / new material)<br>2. Index Laws (revisit / new material)<br>3. Solving Linear Equations (revisit / new material) | Deliberate practice (booklet)<br>Exit ticket for end of topic assessment |

## ENGAGEMENT

| **Accessibility** – how are you going to ensure students without ICT can engage with this module? | **Disengagement** – how are you going to ensure students who are not engaging with this module are identified and supported? |
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| Work pack will be printed and posted to students | MS Teams used to track and log submission of work, student, parental and tutor contact when not completed. CL informed of repeated disengagement. |

## FEEDBACK

| **End of Module** – what is the end of module assessment, which will be used to evaluate the knowledge and skills gained? | **Review Points** – what takes place at the review points, to monitor the progress of learners and provide feedback, or support? | |
|---|---|---|
| Exit ticket to check key success criteria<br>Algebraic Skills<br>• Expanding single and double brackets<br>• Factorising polynomials<br>• Collecting Like Terms<br>• Laws of Indices<br>Equations | **2 Weeks** | Exit ticket at end of 2-week module |
| | **4 Weeks** | x |
| | **6 Weeks** | x |
| | **8 Weeks** | x |
| | **Other** | "Clinic" to take place once a week via MS Teams |

| | | |
|---|---|---|
| • Forming and solving linear equations. | | |

## Delivery *(please note - a two week remote learning module may only take one lesson cycle)*

**1**

Number of lessons in cycle: 3

| 1) Lesson Type (remote or blended) | | 2) DNA (Do Now Activity/Reading) | 3) Learning Intentions (what, why & how) | |
|---|---|---|---|---|
| Remote (live on MS Teams and remote as study) | ☒ | Recall practice (MathsBot displayed on arrival)<br><br>Last lesson, last week, last month grids for each asynchronous lesson | What | Expanding and factorising |
| | | | Why | Fill in the gaps, develop fluency and understanding |
| Blended (live in classroom and remote as study) | ☐ | | How | Expand and factorise up to and including quadratics. |

| 4) New Material (previous learning/ new material) | 5) Check for Understanding (questioning/checking) | 6) Prepare for Practice (model/ scaffold) | |
|---|---|---|---|
| Expanding single and double brackets<br>Factorising into single and double brackets. | Diagnostic questions used – answers in chat or held up on camera | Questions clearly modelled and scaffolded, students asked to copy down for reference | Synchronous (live) |
| **7) Deliberate Practice (guided/ independent)** | **8) Feedback (light/deep)** | **9) Review (daily/monthly)** | Asynchronous (remote) |
| Section 1 – Collecting like terms<br>Section 2 – Expanding brackets<br>Section 3 – Factorising brackets | Q&A clinic used to answer questions<br>Solutions shared for students to self-assess, teacher will collate common errors through viewing submitted work and address in Q&A clinics | Quiz at the end of the cycle (MS Forms) | |

**2**

Number of lessons in cycle: 4

| 1) Lesson Type (remote or blended) | | 2) DNA (Do Now Activity/Reading) | 3) Learning Intentions (what, why & how) | |
|---|---|---|---|---|
| Remote (live on MS Teams and remote as study) | ☒ | Recall practice (MathsBot displayed on arrival)<br><br>Last lesson, last week, last month grids for each asynchronous lesson | What | Laws of indices |
| | | | Why | Fill in the gaps, develop fluency and understanding |
| Blended (live in classroom and remote as study) | ☐ | | How | Answer questions involving basic laws of indices, including fractional and negative. |

| 4) New Material (previous learning/ new material) | 5) Check for Understanding (questioning/checking) | 6) Prepare for Practice (model/ scaffold) | |
|---|---|---|---|
| Basic index laws.<br>Fractional and negative indices | Diagnostic questions used – answers in chat or held up on camera | Questions clearly modelled and scaffolded, students asked to copy down for reference | Synchronous (live) |
| **7) Deliberate Practice (guided/ independent)** | **8) Feedback (light/deep)** | **9) Review (daily/monthly)** | Asynchronous (remote) |
| Section 4 – Index Laws<br>Section 5 – Index Laws | Q&A clinic used to answer questions<br>Solutions shared for students to self-assess, teacher will collate common errors through viewing submitted work and address in Q&A clinics | Quiz at the end of the cycle (MS Forms) | |

<table>
<tr><td rowspan="5">3</td><td rowspan="2">1</td><td colspan="2">1) Lesson Type<br>(remote or blended)</td><td>2) DNA<br>(Do Now Activity/Reading)</td><td colspan="2">3) Learning Intentions<br>(what, why & how)</td></tr>
<tr><td>Remote<br>(live on MS Teams and remote as study)</td><td>☒</td><td rowspan="2">Recall practice (MathsBot displayed on arrival)<br><br>Last lesson, last week, last month grids for each asynchronous lesson</td><td rowspan="2"><table><tr><td>What</td><td>Solving linear equations</td></tr><tr><td>Why</td><td>Fill in the gaps, develop fluency and understanding</td></tr><tr><td>How</td><td>Form and solve linear equations for context.</td></tr></table></td></tr>
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<tr><td>Section 6- Solving Linear Equation</td><td>Q&A clinic used to answer questions<br>Solutions shared for students to self-assess, teacher will collate common errors through viewing submitted work and address in Q&A clinics</td><td>Quiz at the end of the cycle (MS Forms)<br>Exit ticket provided at the end of the module.</td></tr>
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