**Walton High School Hub Curriculum** 

**Year 11 HIGHER – Maths**

**Half term 3 (January 2025 – February 2025)**

How it works:

1. In the table, find the correct week by looking at the date in the first column.
2. Find today’s work – there are three links per double lesson so you won’t run out of work!
3. Choose a lesson – hold ctrl and click on the chosen link.

**If the link does not work, you do not recognise the work or the work is too difficult, try another lesson.**

1. Some lessons have links to PowerPoints and other resources beneath the video and/or Starter Quiz.
2. Complete any starter quizzes.
	1. Write your answer down
	2. Mark your answers and write down any corrections, using the videos.
3. Watch the videos and take notes.
4. Pause if/when instructed to do so to answer questions or respond.
5. When the lesson is complete, go onto the next one.

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| Week commencing | Day | Topic | Lesson 1 | Lesson 2 |
| 06/01/25 | Monday | Circle Theorems | [Circle Theorems: Angle at the centre and angle at the circumference |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-1-1521/lessons/circle-theorems-angle-at-the-centre-and-angle-at-the-circumference-70u66r/overview)  | [Circle Theorems: Angle in a semicircle is 90 degrees |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-1-1521/lessons/circle-theorems-angle-in-a-semicircle-is-90-degrees-68vkat/overview)  |
| Tuesday | [Circle Theorems: Angles in the same segment |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-1-1521/lessons/circle-theorems-angles-in-the-same-segment-c5gkad/overview)  | [Circle Theorems: Angles in a cyclic quadrilateral |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-1-1521/lessons/circle-theorems-angles-in-a-cyclic-quadrilateral-6xh6ar/overview)  |
| Wednesday | [Circle Theorems: A tangent and radius are perpendicular at the point of contact |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-2-5438/lessons/circle-theorems-a-tangent-and-radius-are-perpendicular-at-the-point-of-contact-cgwkac/overview)  | [Circle Theorems: The alternate segment theorem | Oak National Academy](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-2-5438/lessons/circle-theorems-the-alternate-segment-theorem-74tkge/overview)  |
| Thursday  | [Circle Theorems: The perpendicular from the centre to a chord bisects the chord |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-2-5438/lessons/circle-theorems-the-perpendicular-from-the-centre-to-a-chord-bisects-the-chord-6rvk6c/overview)  | [Mixed circle theorem problems |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-theorems-2-5438/lessons/mixed-circle-theorem-problems-70r3et/overview)  |
| Friday | [Draw and recognise circle graphs of the form x² + y² = r² |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-graphs-8e03/lessons/draw-and-recognise-circle-graphs-of-the-form-x-y-r-cguk6t/overview)  | [Decide whether a point lies, on, outside or inside a circle |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-graphs-8e03/lessons/decide-whether-a-point-lies-on-outside-or-inside-a-circle-cgvk2d/overview)  |
| 13/01/25 | Monday  | [Intersection of lines and circles |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-graphs-8e03/lessons/intersection-of-lines-and-circles-c9jk0d/overview)  | [Find the equation of a tangent to a circle at a given point |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/circle-graphs-8e03/lessons/find-the-equation-of-a-tangent-to-a-circle-at-a-given-point-6tk68t/overview)  |
| Tuesday  | [Know the parts of a circle |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/know-the-parts-of-a-circle-60u3cc/overview) | [Find the area of a semicircle and quarter circle |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/find-the-area-of-a-semicircle-and-quarter-circle-ccrp2t/overview)  |
| Wednesday  | [Find the area of a sector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/find-the-area-of-a-sector-c9j66t/overview)  | [Find the radius or diameter given the area of a sector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/find-the-radius-or-diameter-given-the-area-of-a-sector-crupad/overview)  |
| Thursday  | [Find the length of an arc on a semicircle and quarter circle and the perimeter of a semicircle and quarter circle |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/find-the-length-of-an-arc-on-a-semicircle-and-quarter-circle-and-the-perimeter-of-a-semicircle-and-quarter-circle-6mup4d/overview)  | [Find the length of an arc and the perimeter of a sector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/find-the-length-of-an-arc-and-the-perimeter-of-a-sector-6xj34c/overview)  |
| Friday | [Use the arc length to find the radius or angle of a sector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/use-the-arc-length-to-find-the-radius-or-angle-of-a-sector-70wk8r/overview)  | [Calculate area of compound shapes with circles |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher-l/units/parts-of-a-circle-1-2-0fd7/lessons/calculate-area-of-compound-shapes-with-circles-68r34d/overview)  |
| 20/01/25 | Monday | Transformations | [Checking and securing understanding of congruence and similarity |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/checking-and-securing-understanding-of-congruence-and-similarity/overview)  | [Checking and securing understanding of rotation |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/checking-and-securing-understanding-of-rotation/overview)  |
| Tuesday | [Checking and securing understanding of translation |)](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/checking-and-securing-understanding-of-translation/overview) | [Checking and securing understanding of reflection |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/checking-and-securing-understanding-of-reflection/overview)  |
| Wednesday | [Checking and securing understanding of enlargement with positive integer scale factors |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/checking-and-securing-understanding-of-enlargement-with-positive-integer-scale-factors/overview)  | [Checking and securing understanding of enlargement with positive fractional scale factors |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/checking-and-securing-understanding-of-enlargement-with-positive-fractional-scale-factors/overview)  |
| Thursday | [Enlargement using a negative scale factor |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/enlargement-using-a-negative-scale-factor/overview)  | [Describing a negative enlargement |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/describing-a-negative-enlargement/overview)  |
| Friday | [Multiple transformations |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/multiple-transformations/overview)  | [Identifying multiple transformations |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-10-higher/units/further-transformations/lessons/identifying-multiple-transformations/overview)  |
| 27/01/25 | Monday | Vectors | [Translate and describe an object given a horizontal or vertical instruction |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/translate-and-vectors-1-4275/lessons/translate-and-describe-an-object-given-a-horizontal-or-vertical-instruction-6hgket/overview)  | [Translate and describe a 2D vector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/translate-and-vectors-1-4275/lessons/translate-and-describe-a-2d-vector-65k3cr/overview)  |
| Tuesday | [Represent a column vector as a diagram and using notation |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/translate-and-vectors-1-4275/lessons/represent-a-column-vector-as-a-diagram-and-using-notation-c8vp4t/overview)  | [Write a column vector from a diagram |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/translate-and-vectors-1-4275/lessons/write-a-column-vector-from-a-diagram-74tkce/overview)  |
| Wednesday | [Add two column vectors (including diagrams) to give a resultant vector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/vectors-2-429e/lessons/add-two-column-vectors-including-diagrams-to-give-a-resultant-vector-6xgp2d/overview)  | [Add and subtract two column vectors to give a resultant vector (Part 1) |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/vectors-2-429e/lessons/add-and-subtract-two-column-vectors-to-give-a-resultant-vector-part-1-chjp2t/overview)  |
| Thursday | [Multiply a vector by a scalar |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/vectors-2-429e/lessons/multiply-a-vector-by-a-scalar-64u3cr/overview)  | [Add and subtract two column vectors to give a resultant vector (Part 2) |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/vectors-2-429e/lessons/add-and-subtract-two-column-vectors-to-give-a-resultant-vector-part-2-61k38e/overview)  |
| Friday | [Find the length of a column vector |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-1-a8ef/lessons/find-the-length-of-a-column-vector-6cu38r/overview) | [Simple vector diagrams | O](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-1-a8ef/lessons/simple-vector-diagrams-74v34t/overview) |
| 03/02/25 | Monday  | Mock exams | [Vector diagrams involving midpoints |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-1-a8ef/lessons/vector-diagrams-involving-midpoints-68wp2d/overview)  | [Vector diagrams involving ratios |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-1-a8ef/lessons/vector-diagrams-involving-ratios-6gv3ad/overview) |
| Tuesday | [Prove that two vectors are parallel |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-2-and-congruent-triangles-b62d/lessons/prove-that-two-vectors-are-parallel-6dgk8c/overview)  | [Conditions of congruent triangles |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-2-and-congruent-triangles-b62d/lessons/conditions-of-congruent-triangles-6mvpcd/overview)  |
| Wednesday | [Prove triangles are congruent |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/higher-vectors-2-and-congruent-triangles-b62d/lessons/prove-triangles-are-congruent-6cu34r/overview)  | [Write the difference of two algebraic fractions where the denominator is an expression |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/further-algebraic-fractions-2758/lessons/write-the-difference-of-two-algebraic-fractions-where-the-denominator-is-an-expression-61h64r/overview)  |
| Thursday | [Solve algebraic fraction equations |)](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/further-algebraic-fractions-2758/lessons/solve-algebraic-fraction-equations-c5j6cd/overview) | [Solve algebraic fraction equations involving addition or subtraction |)](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/further-algebraic-fractions-2758/lessons/solve-algebraic-fraction-equations-involving-addition-or-subtraction-6xj32r/overview) |
| Friday | [Prove by counter example |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/algebraic-proof-f6a4/lessons/prove-by-counter-example-cdk3cc/overview)  | [Prove an expression will be a multiple of a given number |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/algebraic-proof-f6a4/lessons/prove-an-expression-will-be-a-multiple-of-a-given-number-6tjket/overview)  |
| 10/02/25 | Monday | [Find the gradient of a line |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/find-the-gradient-of-a-line-60wkjd/overview)  | [Find the equation of a straight line using y=mx+c |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/find-the-equation-of-a-straight-line-using-ymxc-60u3gr/overview)  |
| Tuesday | [Find the intercept and gradient from a line given in any form |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/find-the-intercept-and-gradient-from-a-line-given-in-any-form-6mrk8c/overview)  | [Using gradient to solve problems with parallel lines |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/using-gradient-to-solve-problems-with-parallel-lines-cgr36c/overview)  |
| Wednesday | [Plot simple quadratic equations |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/plot-simple-quadratic-equations-6gr32e/overview)  | [Plot other quadratic equations |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/plot-other-quadratic-equations-65h3ed/overview)  |
| Thursday | [Solving Quadratic Equations Graphically |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/solving-quadratic-equations-graphically-6cr6ad/overview)  | [Identify and interpret roots, intercepts and turning points of quadratic graphs |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/identify-and-interpret-roots-intercepts-and-turning-points-of-quadratic-graphs-c4uk8d/overview)  |
| Friday | [Draw quadratic graphs (a > 1) |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/draw-quadratic-graphs-a-greater-1-cgup2e/overview)  | [Draw quadratic graphs (negative x squared) |](https://www.thenational.academy/pupils/programmes/maths-secondary-year-11-higher-l/units/revise-linear-and-quadratic-graphs-75eb/lessons/draw-quadratic-graphs-negative-x-squared-6hgpcr/overview)  |