## **Remote Curriculum**

## Year 11 Maths

## **How it Works:**

- 1. Find the column for your Maths set.
- 2. Find the correct week commencing row.
- 3. Find today's day There are up to 4 different lessons in each day you won't run out of work.
- 4. Chose a lesson hold ctrl and click the chosen link.
  - a. If you don't recognise the work, it appears too difficult or it doesn't load:
    - i. Try another task look at the previous/next lesson or look at other days to find something familiar You won't run out of work.
- 5. Some lessons have links to PowerPoints and other resources beneath the video and/or Starter Quiz (LSQ)
- 6. Complete any starter quizzes.
  - a. Write your answer down
  - b. Mark your answers and write down any corrections
- 7. Watch the videos and take notes.
- 8. Pause if/when instructed to do so to answer questions or respond.
- 9. Complete and go onto the next one.

| Week<br>Commencing | Week | Lesson    | Sets 1 to 3 Higher<br>Hold ctrl and click   | Sets 4 and 5 Higher Hold ctrl and click  | Sets 5 to 9 Foundation  Hold ctrl and click  |
|--------------------|------|-----------|---|--|--|
|                    |      | Monday    |   |  |  |
|                    | В    | Tuesday   |   |  |  |
| 4/4/04             |      | Wednesday | <ol> <li>Add two surds</li> <li>Subtract two surds</li> </ol>                                   | 1.Plot a cumulative frequency diagram     2.Find quartiles and IQR from cumulative frequency | Solving two step equations     Solving equations with brackets   |
| 1/1/24             |      | Thursday  | <ol> <li>Add two surds with simplifying</li> <li>Subtract two surds with simplifying</li> </ol> | 1.Find quartiles and IQR from cumulative frequency     2.Find quartiles from a list of data  | Solving equations with unknowns on both sides     Substitute a positive into a formula   |
|                    |      | Friday    | Multiply two surds and simplify     Multiplying two surds with coefficients                     | 1.Find quartiles from a list of data     2.Plot a boxplot and compare                        | <ol> <li>Substitute a positive into a formula</li> <li>Substitute a negative into a formula</li> </ol>                           |
| 8/01/24            | A    | Monday    | Expanding single brackets with surds     Expanding double brackets with surds                   | 1.Plot a boxplot and compare     2.Listing outcomes in a sample space diagram                | <ol> <li>Substitute a negative into a formula</li> <li>Change the subject of a formula</li> </ol>                                |
|                    |      | Tuesday   | <ol> <li>Expanding double brackets<br/>with surds</li> <li>Dividing surds (part 1)</li> </ol>   | 1.Listing outcomes in a sample space diagram     2.Calculate experimental probabilities      | <ol> <li>Change the subject of a formula</li> <li>Changing the subject of a formula<br/>with squares and square roots</li> </ol> |



|          |   | Wednesday | Dividing surds (part 1)     Dividing surds (part 2)   | 1.Calculate experimental probabilities     2.Find probabilities form Venn diagrams  | 1.Changing the subject of a formula with squares and square roots     2.Plot simple quadratic equations   |
|----------|---|-----------|---|---|---|
|          |   | Thursday  | Expanding double brackets     with surds     Rationalising surds (part 1)   | 1. Find probabilities form Venn diagrams 2. Find probabilities from frequency trees   | <ol> <li>Plot simple quadratic equations</li> <li>Plot other quadratic equations</li> </ol>   |
|          |   | Friday    | <ol> <li>Rationalising surds (part 1)</li> <li>Rationalising surds (part 2)</li> </ol>                              | <ul><li>1. Find probabilities from frequency trees</li><li>2. Tree diagram for independent events</li></ul>                         | 1. Plot other quadratic equations     2. Solving quadratics graphically   |
|          |   | Monday    | Rationalising surds (part 2)     Adding two algebraic fractions   | Tree diagram for independent     events     Calculate probabilities of     independent events                                       | Solving quadratics graphically     Identify and interpret roots of quadratics   |
|          |   | Tuesday   | <ol> <li>Subtracting algebraic fractions</li> <li>Solving algebraic fractions</li> </ol>                            | 1.Calculate probabilities of independent events     2.Draw tree diagrams for dependent events                                       | 1.Identify and interpret roots of quadratics     2.Distance time graphs   |
| 15/01/24 | В | Wednesday | <ol> <li>Solving algebraic fractions</li> <li>Solving algebraic fractions with<br/>adding or subtracting</li> </ol> | 1. Draw tree diagrams for dependent events     2. Plot simple quadratic equations   | 1. <u>Distance time graphs</u> 2. <u>Calculate speed from a distance time graph</u>   |
|          |   | Thursday  | Solving algebraic fractions with adding or subtracting     Proof by counter example                                 | <ol> <li>Plot simple quadratic equations</li> <li>Plot other quadratic equations</li> </ol>   | 1. Calculate speed from a distance time graph     2. Velocity time graph  |
|          |   | Friday    | <ol> <li>Proof by counter example</li> <li>Proof an expression will be a multiple</li> </ol>                        | <ol> <li>Plot other quadratic equations</li> <li>Solving quadratic equations<br/>graphically</li> </ol>                             | 1. Velocity time graph     2. Acceleration from a velocity time graph   |
|          |   | Monday    | Proof an expression will be a multiple     Consecutive number proofs  | <ul><li>1. Solving quadratic equations graphically</li><li>2. Identify and interpret roots, intercepts and turning points</li></ul> | 1. Acceleration from a velocity time graph     2. Solve linear simultaneous equations   |
|          |   | Tuesday   | Consecutive number proofs     Odd and even number proofs  | 1.Identify and interpret roots, intercepts and turning points     2.Drawing quadratic graph a>1                                     | Solve linear simultaneous     equations     Solve linear simultaneous     equations where you have to     multiply  |
| 22/01/24 | A | Wednesday | Rationalising     Translate and describe an object  | <ol> <li>Drawing quadratic graph a&gt;1</li> <li>Drawing cubic functions using tables</li> </ol>                                    | <ol> <li>Solve linear simultaneous         equations where you have to         multiply</li> <li>Solve linear simultaneous         equations, multiplying both</li> </ol> |
|          |   | Thursday  | <ol> <li>Translate and describe a 2D vector</li> <li>Represent a column vector as a diagram</li> </ol>              | Drawing cubic functions using tables     Plot a histogram   | <ol> <li>Solve linear simultaneous<br/>equations, multiplying both</li> <li>Solve linear simultaneous<br/>equations, rearranging first</li> </ol>                         |
|          |   | Friday    | Represent a column vector as a diagram  | 1.Plot a histogram     2.Find a frequency from a histogram  | Solve linear simultaneous equations, rearranging first  |

|          |   |           | Write a column vector from a diagram   |   | 2.Know and understand Pythagoras' Theorem  |
|----------|---|-----------|--|---|--|
|          | В | Monday    | Write a column vector from a diagram     Add two column vectors  | Find a frequency from a histogram     Find a median from a histogram                                | Find Hypotenuse     Find shorter side  |
|          |   | Tuesday   | <ol> <li>Add two column vectors</li> <li>Add and subtract two column vectors</li> </ol>                    | <ol> <li>Find a median from a histogram</li> <li>Find probabilities from a<br/>histogram</li> </ol> | Find shorter side     Finding missing length   |
| 29/01/24 |   | Wednesday | Add and subtract two column vectors     Multiply a vector by a scalar                                      | Find probabilities from a histogram     Circle theorem, angle at the centre                         | 1.Finding missing length     2.Showing a triangle is right angled                            |
|          |   | Thursday  | <ol> <li>Multiply a vector by a scalar</li> <li>Add and subtract two column<br/>vectors part 2</li> </ol>  | 1. Circle theorem, angle at the centre     2. Circle theorem, angle in a semi-circle                | Showing a triangle is right angled     Finding length of line segment                        |
|          |   | Friday    | <ol> <li>Add and subtract two column vectors part 2</li> <li>Find the length of a column vector</li> </ol> | 1. Circle theorem, angle in a semi-circle 2. Circle theorem, same segment                           | 1.Finding length of line segment     2.Pythagoras with isosceles                             |
|          | Α | Monday    | Find the length of a column vector     Simple vector diagrams  | 1.Circle theorem, same segment     2.Circle theorem, cyclic quadrilateral                           | 1.Pythagoras with isosceles     2.Pythagoras with two triangles                              |
|          |   | Tuesday   | <ol> <li>Simple vector diagrams</li> <li>Vector diagrams involving<br/>midpoints</li> </ol>                | 1.Circle theorem, cyclic quadrilateral     2.Circle theorem, tangent and radius                     | <ol> <li>Pythagoras with two triangles</li> <li>Pythagoras Theorem</li> </ol>                |
| 5/02/24  |   | Wednesday | <ol> <li>Vector diagrams involving midpoints</li> <li>Vector diagrams involving ratios</li> </ol>          | Circle theorem, tangent and radius     Circle theorem, alternate segment                            | <ol> <li>Pythagoras Theorem</li> <li>Pythagoras theorem 2</li> </ol>                         |
|          |   | Thursday  | <ol> <li>Vector diagrams involving ratios</li> <li>Prove that two vectors are parallel</li> </ol>          | <ol> <li>Circle theorem, alternate<br/>segment</li> <li>Circle theorem, perpendicular</li> </ol>    | <ol> <li>Angles in parallel lines</li> <li>Angles in parallel lines part 2</li> </ol>        |
|          |   | Friday    | <ol> <li>Prove that two vectors are parallel</li> <li>Conditions of congruent triangles</li> </ol>         | <ol> <li>Circle theorem, perpendicular</li> <li>Mixed circle theorem problems</li> </ol>            | <ol> <li>Angles in parallel lines part 2</li> <li>Finding missing exterior angles</li> </ol> |
|          |   |           |  |   |  |
|          |   | Monday    |  |   |  |
| 19/02/24 | В | Tuesday   | Conditions of congruent triangles     Prove triangles are congruent  | Substitute a positive into a formula     Substitute a negative into a formula                       | Finding missing exterior angles     Solving problems involving exterior angles               |
|          |   | Wednesday | Proof by counter example   | Substitute a negative into a formula  | Solving problems involving     exterior angles   |

|          |   |           | Proof an expression will be a multiple  | Change the subject of a formula  | Finding missing exterior angle of a polygon  |
|----------|---|-----------|---|--|--|
|          |   | Thursday  | Proof an expression will be a multiple     Consecutive number proofs  | Change the subject of a formula     Changing the subject of a formula with squares and square roots    | <ol> <li>Finding missing exterior angle of<br/>a polygon</li> <li>Finding the sum of the interior<br/>angles of a polygon</li> </ol>               |
|          |   | Friday    | Rationalising surds (part 1)     Rationalising surds (part 2)   | 1.Changing the subject of a formula with squares and square roots     2.Adding two algebraic fractions | <ol> <li>Finding the sum of the interior angles of<br/>a polygon</li> <li>Finding number of sides when given<br/>sum of interior angles</li> </ol> |
| 26/02/24 | A | Monday    | Consecutive number proofs     Odd and even number proofs  | Adding two algebraic fractions     Subtracting algebraic fractions                                     | <ol> <li>Finding number of sides when given sum of interior angles</li> <li>Finding missing angles when polygons are joined</li> </ol>             |
|          |   | Tuesday   | Find a particular value of f(x)     Solve equations using f(x)=   | <ol> <li>Subtracting algebraic fractions</li> <li>Solving algebraic fractions</li> </ol>               | <ol> <li>Finding missing angles when polygons are joined</li> <li>Write the equations of a straight line</li> </ol>                                |
|          |   | Wednesday | <ol> <li>Solve equations using f(x)=</li> <li>Composite functions</li> </ol>  | 1. Solving algebraic fractions     2. Solving algebraic fractions with adding or subtracting           | <ol> <li>Write the equations of a straight line</li> <li>Writing the equation of a line parallel to another line</li> </ol>                        |
|          |   | Thursday  | <ol> <li>Composite functions</li> <li>Find inverse functions</li> </ol>   | Solving algebraic fractions with adding or subtracting     Add two surds                               | <ol> <li>Writing the equation of a line parallel to another line</li> <li>Find the equation of a line through two points</li> </ol>                |
|          |   | Friday    | <ol> <li>Find inverse functions</li> <li>Graphs of cubic functions</li> </ol>   | <ol> <li>Add two surds</li> <li>Subtract two surds</li> </ol>  | <ol> <li>Find the equation of a line through two points</li> <li>Interpret gradient and intercept</li> </ol>                                       |
|          |   | Monday    | Sketching graphs of cubics     Interpreting cubic graphs  | Subtract two surds     Add two surds with simplifying  | Interpret gradient and intercept     Translate and describe an object  |
| 4/03/24  | В | Tuesday   | I.Interpreting cubic graphs     Compared to the second secon | Add two surds with simplifying     Multiply two surds and simplify                                     | Translate and describe an object     Translate and describe a 2D vector  |
|          |   | Wednesday | 1.Graph of reciprocal function     2.Knowing the trigonometric graphs   | Multiply two surds and simplify     Multiplying two surds with coefficients                            | Translate and describe a 2D vector     Represent a column vector as a diagram  |
|          |   | Thursday  | 1.Knowing the trigonometric graphs     2.Graphs of exponential functions  | Multiplying two surds with coefficients     Expanding single brackets with surds                       | <ol> <li>Represent a column vector as a diagram</li> <li>Write a column vector from a diagram</li> </ol>   |

|          |   | Friday    | 1.Graphs of exponential functions     2.Transformations of graphs  | Expanding single brackets with surds     Expanding double brackets with surds  | 1.Write a column vector from a diagram     2.Add two column vectors                            |
|----------|---|-----------|--|--|--|
|          |   | Monday    | 1.Transformations of graphs     2.Reflections of graphs  | Expanding double brackets with surds     Rationalising surds (part 1)  | Add two column vectors     Add and subtract two column vectors     3.                          |
|          | Α | Tuesday   | 1.Reflections of graphs     2.Estimate the gradient of a curve   | <ol> <li>Rationalising surds (part 1)</li> <li>Rationalising surds (part 2)</li> </ol>   | Add and subtract two column vectors     Multiply a vector by a scalar                          |
| 11/03/24 |   | Wednesday | <ol> <li>Estimate the gradient of a curve</li> <li>Estimate and interpret the gradient of a curve</li> </ol> | 1.Rationalising surds (part 2)     2.Solve linear simultaneous equations   | 1.Multiply a vector by a scalar     2.Add and subtract two column vectors part 2               |
|          |   | Thursday  | Estimate and interpret the gradient of a curve     Find the area under a straight line                       | 1. Solve linear simultaneous equations     2. Solve linear simultaneous equations     where you have to multiply                     | Add and subtract two column vectors part 2     Use and apply the speed formula                 |
|          |   | Friday    | <ol> <li>Find the area under a straight line</li> <li>Estimate the area under a curve</li> </ol>             | Solve linear simultaneous     equations where you have to     multiply     Solve linear simultaneous     equations, multiplying both | <ol> <li>Use and apply the speed formula</li> <li>Use and apply the density formula</li> </ol> |
| 18/03/24 | В | Monday    | 1.Estimate the area under a curve     2.Simple direct proportion   | Solve linear simultaneous     equations, multiplying both     Solve linear simultaneous     equations, rearranging first             | Use and apply the density formula     Use and apply the pressure formula                       |
|          |   | Tuesday   | 1.Simple direct proportion     2.Other direct proportion relationships                                       | <ol> <li>Solve linear simultaneous         equations, rearranging first</li> <li>Translate and describe an         object</li> </ol> | Use and apply the pressure formula     Solve simple kinematic problems                         |
|          |   | Wednesday | 1.Other direct proportion relationships     2.Inverse proportion   | Translate and describe an object     Represent a column vector as a diagram  | Solve simple kinematic     problems     Adding two numbers in     standard form                |
|          |   | Thursday  | <ol> <li>Inverse proportion</li> <li>Further proportionality</li> </ol>                                      | <ol> <li>Represent a column vector as a diagram</li> <li>Write a column vector from a diagram</li> </ol>                             | Adding two numbers in standard form     Subtracting two numbers in standard form               |

|          |   | Friday    | <ol> <li>Further proportionality</li> <li>Draw and recognise circle graphs</li> </ol>                          | <ol> <li>Write a column vector from a diagram</li> <li>Add two column vectors</li> </ol>                   | <ol> <li>Subtracting two numbers in standard form</li> <li>Multiplying two numbers in standard form</li> </ol> |
|----------|---|-----------|--|--|--|
| 25/03/24 | A | Monday    | <ol> <li>Draw and recognise circle graphs</li> <li>Whether a point lies in, on or outside a circle</li> </ol>  | <ol> <li>Add two column vectors</li> <li>Add and subtract two column vectors</li> </ol>                    | <ol> <li>Multiplying two numbers in standard form</li> <li>Dividing two numbers in standard form</li> </ol>    |
|          |   | Tuesday   | <ol> <li>Whether a point lies in, on or outside a circle</li> <li>Intersection of lines and circles</li> </ol> | <ol> <li>Add and subtract two column vectors</li> <li>Multiply a vector by a scalar</li> </ol>             | <ol> <li>Dividing two numbers in standard form</li> <li>Ratio and fractions</li> </ol>                         |
|          |   | Wednesday | <ol> <li>Intersection of lines and circles</li> <li>Finding the equation of a tangent to a circle</li> </ol>   | <ol> <li>Multiply a vector by a scalar</li> <li>Add and subtract two column<br/>vectors part 2</li> </ol>  | <ol> <li>Ratio and fractions</li> <li>Compare the cost of two items</li> </ol>                                 |
|          |   | Thursday  | <ol> <li>Finding the equation of a tangent to a circle</li> <li>Further proportionality</li> </ol>             | <ol> <li>Add and subtract two column vectors part 2</li> <li>Find the length of a column vector</li> </ol> | <ol> <li>Compare the cost of two items</li> <li>Proportion problems</li> </ol>                                 |
|          |   | Friday    |  |  |  |