

## YEAR 13 – MATHEMATICS (Week 9)

<b>Subject</b>	<b>Mathematics</b>
<b>Class/ Section</b>	<b>Year 13 – Batch A, B and C</b>
<b>Week</b>	<b>17<sup>th</sup> May to 21<sup>st</sup> May</b>
<b>Work send to students by</b>	<b>Group email / Google classroom / Zoom</b>
<b>Total number of lessons per week</b>	<b>6</b>
<b>Units</b>	<p>– <b>Series</b></p> <p>– <b>Proof by Mathematical Induction</b></p>
<p><b>Lessons 1 –Live Zoom lesson</b></p> <p><b>Lesson 2&amp;3 will be asynchronous wherein work will be assigned in google classroom which will be matched to the students ability.</b></p> <p><b>Tasks</b></p>	<p>Learning objective – To Use the sigma notation for Series          -To Use the formula for <math>\sum r</math></p> <p><b><u>Intended Learning Outcomes</u></b></p> <ul style="list-style-type: none"> <li>-Students will be able to write out a series when it is given in sigma notation</li> <li>- Students will be able to write a series using sigma notation when it is given in expanded form for linear sequences.</li> <li>- Students will be able to write a series in sigma notation when the sequence is quadratic.</li> <li>-Some students will explore formula for <math>\sum r^2</math>. This will be a extended task and students will explain their findings in next week’s zoom class and then present worked examples in Google classroom.</li> </ul> <p>Complete the questions assigned from the resource file in the notebook. Students will be put in break out rooms during Zoom lesson to encourage collaborative learning.</p>

<p><b>Resources</b></p>	<ol style="list-style-type: none"> <li>1. Edexcel FP1 textbook</li> <li>2. <a href="https://www.physicsandmathstutor.com">https://www.physicsandmathstutor.com</a></li> </ol>
<p><b>Lesson 4-Live Zoom Session</b>  <b>Lesson 5&amp;6 will be asynchronous</b>  <b>wherein work will be assigned in</b>  <b>google classroom which will be</b>  <b>matched to the students ability.</b></p> <p><b>Tasks</b></p> <p><b>Resource</b></p>	<p>Learning objective – To use mathematical induction to produce a proof for a general term of a recurrence relation</p> <ul style="list-style-type: none"> <li>-Use proof by induction to prove general statements involving matrix multiplication.</li> </ul> <p><b><u>Outcomes Intended learning</u></b></p> <ul style="list-style-type: none"> <li>-Students will be able to prove recurrence relation of the type <math>U_{n+1} =</math>, using mathematical induction</li> <li>-Students will be able to prove recurrence relation of the type <math>U_{n+2} =</math>, using mathematical induction.</li> <li>-Students will explore proof for <math>U_{n+3}</math>. This will be a extended task and students will explain their findings in next week’s zoom class.</li> <li>-Students will formulae for matrix powers for different 2x2 matrices.</li> <li>-Students will explore proof of matrix powers for 3x3 matrices. This will be a extended task and students will explain their findings in next week’s zoom class.</li> </ul> <p>Complete the questions assigned from the resource file in the notebook. Students will be put in break out rooms during Zoom lesson to encourage collaborative learning.</p> <ol style="list-style-type: none"> <li>1. Edexcel FP1 textbook</li> <li>2. <a href="https://www.physicsandmathstutor.com/">https://www.physicsandmathstutor.com/</a></li> </ol>