

**YEAR 13 – MATHEMATICS (Week 4)**

<b>Subject</b>	<b>Mathematics</b>
<b>Class/ Section</b>	<b>Year 13 – Batch A, B and C</b>
<b>Week</b>	<b>20<sup>th</sup> September to 24<sup>th</sup> September 2020</b>
<b>Work send to students by</b>	<b>Group email / Google classroom / Zoom</b>
<b>Total number of lessons per week</b>	<b>3</b>
<b>Units</b>	<b>Pure Mathematics – Year 2 Chapter 2 – Functions and graphs Chapter 3 – Sequences and Series</b>
<b>Lessons 1 –Live Zoom lesson</b>	<b>2.5 – <math>y =  f(x) </math> and <math>y = f( x )</math> 2.6 – Combining transformation.</b>  <b><u>Learning objective</u> – To reinforce the concepts learnt and work out the problems from Integration</b>  <b><u>Intended Learning Outcomes</u></b> --Students will be able to sketch the graph and find modulus of simple functions. --Students will be able to sketch the graph of $y =  f(x) $ and $y = f( x )$ of more complex functions. --Students will be able to solve exam style questions using combinations of Transformations of a function.
<b>Tasks</b>	To complete the questions assigned from the Textbook (pdf) in their notebook. Students will be put in break out rooms during Zoom lesson to encourage collaborative learning.
<b>Resources</b>	1. Power point presentation 2. Pure Mathematics Year 2 3. <a href="https://www.physicsandmathstutor.com/">https://www.physicsandmathstutor.com/</a> 4. <a href="https://www.drfrstmaths.com/">https://www.drfrstmaths.com/</a> 5. <a href="https://www.examsolutions.net/">https://www.examsolutions.net/</a>

<p><b>Lessons 2 –Live Zoom lesson</b></p> <p><b>Tasks</b></p> <p><b>Resources</b></p>	<p><b>2.7 – Solving Modulus Problems</b>  <b>Mixed Exercise 2</b></p> <p><b><u>Learning objective</u></b> – To transform the modulus functions and solve problems.</p> <p><b><u>Intended Learning Outcomes</u></b></p> <p>--Students will be able to use the combination of transformations together with <math> f(x) </math> and <math>f( x )</math> and an understanding of domain and range to solve problems.</p> <p>-- Students will be able to state the range of transformed modulus function and how to solve them.</p> <p>-- Students will be able to do the problems from the mixed exercise of Chapter 2 – Functions and graphs.</p> <p>To complete the questions assigned from the Textbook (pdf) in their 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. Power point presentation</li> <li>2. Pure Mathematics Year 2</li> <li>3. <a href="https://www.physicsandmathstutor.com/">https://www.physicsandmathstutor.com/</a></li> <li>4. <a href="https://www.drfrostmaths.com/">https://www.drfrostmaths.com/</a></li> <li>5. <a href="https://www.examsolutions.net/">https://www.examsolutions.net/</a></li> </ol>
<p><b>Lessons 3 –Live Zoom lesson</b></p> <p><b>Tasks</b></p> <p><b>Resource</b></p>	<p><b>3.1 – Arithmetic Sequences</b>  <b>3.2 – Arithmetic Series</b></p> <p><b><u>Learning objective</u></b> – To find the <math>n^{\text{th}}</math> term of an arithmetic sequence and to prove and use the formula for the sum of the first <math>n</math> terms of an arithmetic series.</p> <p><b><u>Intended Learning Outcomes</u></b></p> <p>--Students will be able to if the difference between two consecutive terms is positive, then the sequence is increasing, if the difference between two consecutive terms is negative, then the sequence is decreasing and if the difference between two consecutive terms is not constant, then the sequence is not arithmetic and use the formula to find the <math>n^{\text{th}}</math> term of the arithmetic sequence.</p> <p>--Students will be able to understand the definition of series by identifying the difference from sequence and series and to find the sum of all terms in the series by using a formula and to easily find the sum of series using a formula <math>S_n = (n/2)(a+l)</math>, where <math>a</math> is the first term and <math>l</math> is the last term.</p> <p>To complete the questions assigned from the Textbook (pdf) in their 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 Power point presentation</li> <li>2 Pure Mathematics Year 2</li> <li>3 <a href="https://www.physicsandmathstutor.com/">https://www.physicsandmathstutor.com/</a></li> <li>4 <a href="https://www.drfrostmaths.com/">https://www.drfrostmaths.com/</a></li> <li>5 <a href="https://www.examsolutions.net/">https://www.examsolutions.net/</a></li> </ol>