YEAR 13 – MATHEMATICS (Week 3)

Subject	**Mathematics**
Class/ Section	**Year 13 – Batch A, B and C**
Week	**13th September to 17th September 2020**
Work send to students by	**Group email / Google classroom / Zoom**
Total number of lessons per week	**3**
Units	**Pure Mathematics – Year 2** **Chapter 1 – Proof by contradiction** **Chapter 2 – Functions and graphs**
Lessons 1 –Live Zoom lesson	**1.1 - Proof by contradiction** **2.1 – The modulus functions** **2.2 – Functions and Mapping** **Learning objective – To use proof by contradiction to prove true statements. To understand and use the modulus functions. To understand mapping and functions, and use domain and range.** **Intended Learning Outcomes** --Students will be able to understand that a contradiction is a disagreement between two statements, which means that both cannot be true. Proof by contradiction is a powerful technique. -- Students will be able to find the y values when the x values of the modulus functions are given and be able to sketch the graph of modulus functions. -- Students will be able to solve modulus equations algebraically and find the domain of the given function. -- Students will be able to solve exam style questions involving modulus inequalities algebraically and graphically and find the domain and range of given functions.
Tasks	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.
Resources	1. Power point presentation 2. Pure Mathematics Year 2 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/

Lessons 2 –Live Zoom lesson	**2.3 – Composite functions** **2.4 – Inverse functions** **<u>Learning objective</u> – To find areas bounded by curves and straight lines.** **<u>Intended Learning Outcomes</u>** --Students will be able to find simple composite functions and inverse functions. -- Students will be able to find composite functions involving reciprocal and linear functions and finding the inverse of quadratic and square root functions. -- Students will be able to find composite functions involving modulus and exponential functions and can find the domain and the range of inverse functions.
Tasks **Resources**	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. 1. Power point presentation 2. Pure Mathematics Year 2 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/
Lessons 3 –Live Zoom lesson	**2.5 – y = lf(x)l and y = f(lxl)** **2.6 – Combining transformation.** **<u>Learning objective</u> – To reinforce the concepts learnt and work out the problems from Integration** **<u>Intended Learning Outcomes</u>** --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.
Tasks **Resource**	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. 1. Power point presentation 2. Pure Mathematics Year 2 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ **5.** https://www.examsolutions.net/