YEAR 12 – MATHEMATICS (Week 11)

Subject	**Mathematics (Pure Math &Stat)**
Class/ Section	**Year 12 – Batch 1, 2 and 3**
Week	**8th November – 12th November 2020**
Work send to students by	**Group email / Google classroom / Zoom**
Total number of lessons per week	**6**
Units	**PURE MATH- Ch 7(ALGEBRAIC METHODS)** **7.4-Mathematical proof.** **7.5-Methods of proof** **Ch 8(The binomial expansion)** **8.1 Pascal's triangle** **STATISTICS – Ch 5 (Probability)** **5.1 – Calculating Probabilities** **5.2 – Venn Diagrams** **5.3 – Mutually Exclusive and independent events** **5.4 – Tree Diagrams**
Lessons 1 –Live Zoom lesson **Tasks**	**PURE MATH- Ch 7(ALGEBRAIC METHODS)** **7.4-Mathematical proof** **7.5-Methods of proof** **Learning objective** –Students will be able construct proof using algebra . -Student will be able to use proof by exhaustion and disproof by counter-example. **Intended Learning Outcomes** - Students will be able to prove a mathematical statement is by deduction. This means starting from known facts or definitions, then using logical steps to reach the desired conclusion. Students will be able to prove a mathematical statement is by exhaustion. This means breaking the statement into smaller cases and proving each case separately. 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 1 / AS

Resources	3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/
Lesson 2 - Live Zoom lesson **Tasks** **Resources**	. **PURE MATH- Ch 8(The binomial expansion)** **8.1 Pascal's triangle** **Learning objective** - Students will be able to use Pascal's triangle to identify binomial coefficients and use them to expand simple binomial expressions . **Intended Learning Outcomes** – Students will be able to expand simple binomial expression. 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 1 / AS 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/
Lessons 3 - Google Classroom **Task** **Resources**	**To do problems involving algebraic methods.** **Intended Learning Outcome:** **By the end of the lesson students will be able to do problems from the Mixed exercise – Chapter 7 (algebraic methods.). Pages 154,155,156and 67. Questions: 8,13,14,22,25** **Work will be assigned in Google Classroom.** **Text Book :** Pure Mathematics Year 1 / AS
Lessons 4 –Live Zoom lesson **Tasks**	**5.1 – Calculating Probabilities** **Learning objective** – To calculate probabilities for single events. **Intended Learning Outcomes** --Students will be able to understand that an experiment is a repeatable process that gives rise to a number of outcomes. An event is a collection of one or more outcomes. A sample space is a set of all possible outcomes. Where outcomes are equally likely the probability of an event is the number of outcomes in the event divided by the total number of possible outcomes. 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. Statistics and Mechanics Year 1 / AS

Resource	3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/a-level-maths/edexcel/edexcel-a-level-maths-past-papers/
Lessons 5 –Live Zoom lesson **Tasks** **Resource**	**5.2 – Venn Diagrams** **5.3 – Mutually Exclusive and independent events** **Learning objective** – To draw and interpret Venn Diagrams. To understand mutually exclusive and independent events, and determine whether two events are independent **Intended Learning Outcomes** -- Students will be able to draw and interpret Venn Diagrams. Venn diagrams are named after the English Mathematician John Venn (1834-1923). A rectangle represents the sample space, S, and it contains closed curves that represents events. -- Students will be able to understand mutually exclusive and independent events, and determine whether two events are independent. When events have no outcomes in common they are called mutually exclusive. In a Venn diagram, the closed curves do not overlap and you can use simple addition rule to work out combined probabilities. For mutually exclusive events, P(A or B) = P(A) + P(B). For independent events, P(A and B) = P(A) x P(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. 1. Power point presentation 2. Statistics and Mechanics Year 1 / AS 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/a-level-maths/edexcel/edexcel-a-level-maths-past-papers/
Lessons 6 –Live Zoom lesson **Tasks** **Resource**	**5.4 – Tree Diagrams** **Learning objective** – To Use and understand tree diagrams **Intended Learning Outcomes** -- Students will be able to understand that a tree diagram can be used to show the outcomes of two (or more) events happening in succession. 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. Statistics and Mechanics Year 1 / AS 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/a-level-maths/edexcel/edexcel-a-level-maths-past-papers/