YEAR 12 – MATHEMATICS (Week 12)

Subject	**Mathematics (Pure Math &Stat)**
Class/ Section	**Year 12 – Batch 1, 2 and 3**
Week	**15th November – 19th November 2020**
Work send to students by	**Group email / Google classroom / Zoom**
Total number of lessons per week	**6**
Units	**PURE MATH- Ch 8(The binomial expansion)** **8.1 Pascal's triangle** **8.2 Factorial notation** **8.3 The binomial expansion** **8.4 Solving binomial problems** **STATISTICS – Ch 6(Statistical distributions)** **6.1 Probability distributions** **6.2 The binomial distribution**
Lessons 1 –Live Zoom lesson **Tasks** **Resources**	**PURE MATH- Ch 8(The binomial expansion)** **8.1 Pascal's triangle** **8.2 Factorial notation** **Learning objective** : To use Pascal's triangle to identify binomial coefficients and use them to expand simple binomial expressions . Students will be able to use combinations and factorial notation. **Intended Learning Outcomes** - Students will be able to expand simple binomial expression. Students will be able to use factorial notation to expand binomial expressions for larger indices . 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/

Lesson 2 - Live Zoom lesson **Tasks** **Resources**	**PURE MATH- Ch 8(The binomial expansion)** **8.3 The binomial expansion** **Learning objective** - To use binomial expansion to expand brackets. **Intended Learning Outcomes** – Students will be able to use binomial expansion to expand powers of binomial expressions. 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 - Live Zoom lesson **Task** **Resources**	**PURE MATH- Ch 8(The binomial expansion)** **8.4 Solving binomial problems** **Learning objective** - To find individual coefficients in a binomial expansion. **Intended Learning Outcomes** – Students will be able to use the general term of the binomial expansion to find individual coefficients in a binomial expansion. 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/ https://www.examsolutions.net/
Lessons 4 –Live Zoom lesson	**6.1 Probability distributions** **Learning objective** – To Understand and use simple discrete probability distributions including the discrete uniform distribution. **Intended Learning Outcomes** --Students will be able to understand that a random variable whose value depends on the outcome of a random event. The range of values that a random variable can take is called its sample space.

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. 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 5 –Live Zoom lesson **Tasks** **Resource**	**6.2 The binomial distribution** **Learning objective** – To understand the binomial distribution as a model and comment on appropriateness. **Intended Learning Outcomes** --Students will be able to model a random variable X with a binomial distribution, B(n,p) if: there are a fixed number of trials, n; there are two possible outcomes (success and failure); there is a fixed probability of success, p and the trials are independent of each other. --Students will be able to understand that a random variable X has the binomial distribution B(n,p) then its probability mass function is given by $P(X = r) = (n, r)\ p^r(1-p)^{n-r}$, n is sometimes called the index and p is sometimes called the parameter. 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**	**To do problems involving Measures of Location and spread.** **Intended Learning Outcome:** **By the end of the lesson students will be able to do problems from the Mixed exercise – Chapter 5 (Probability). Pages 80 to 82. Questions:4, 5, 7, 9 and 11** **Work will be assigned in Google Classroom.** 1. **Text Book :** Statistics and Mechanics Year 1 / AS