YEAR 12 – MATHEMATICS (Week 10)

Subject	Mathematics (Pure Math &Stat)
Class/ Section	Year 12 – Batch 1, 2 and 3
Week	1st November - 5th 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)** **7.1 Algebraic fractions.** **7.2 Dividing polynomials.** **7.3The factor Theorem.** **7.4-Mathematical proof.** **STATISTICS – Ch 4 (Correlation) & Ch 5 (Probability)** **4.1 – Correlation** **4.2 – Linear Regression** **5.1 – Calculating Probabilities**
Lessons 1 –Live Zoom lesson **Tasks** **Resources**	**PURE MATH- Ch 7(ALGEBRAIC METHODS)** **7.1 Algebraic fractions.** **7.2 Dividing polynomials.** <u>**Learning objective**</u> –To simplify algebraic fractions using division, To divide a polynomial by a linear expression. Students will be able to use long division to divide a polynomial by a linear expression. <u>**Intended Learning Outcomes**</u> - Students will be able to simplifying algebraic fraction, possible factorise the numerator and denominator and then cancel common factors. 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	. PURE MATH- Ch 7(ALGEBRAIC METHODS) **7.3 The factor Theorem.** **Learning objective** - Use the factor theorem to factorise a cubic expression. **Intended Learning Outcomes** – -Students will be able to use factor theorem to find simple linear factors of a polynomial.
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 1 / AS 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/
Lessons 3 –Live Zoom lesson	**PURE MATH- Ch 7(ALGEBRAIC METHODS)** **7.4-Mathematical 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.
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 1 / AS 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/

Lessons 4 –Live Zoom lesson	4.1 – Correlation
	4.2 – Linear Regression
	Learning Objective: -To draw and interpret scatter diagrams for bivariate data. To interpret correlation and understand that it does not imply causation. To interpret the coefficients of a regression line equation for bivariate data and to understand when you can use a regression line to make predictions.
	Intended Learning Outcomes
	--Students will be able to know that bivariate data is data which has pairs of values for two variables. Correlation describes the nature of the linear relationship between two variables. When two variables are correlated, you need to consider the context of the question and use your common sense to determine whether they have a causal relationship. --Students will be able to draw line of best fit when a scatter graph shows correlation. One type of line of best fit that is useful in statistics is a least squares regression line. The regression line of y on x is written in the form y = a + bx. The coefficient b tells you the change in y for each unit change in x. If the data is positively correlated, b will be positive. If the data is negatively correlated, b will be negative. You should only use the regression line to make predictions for values of the dependent variable that are within the range of the given data.
Tasks	To complete the questions assigned from the Textbook (pdf) in their notebook. Students will be put in break out rooms during Zoom esson to encourage collaborative learning.
Resource	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	**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.
Tasks	To complete the questions assigned from the Textbook (pdf) in their notebook. Students will be put in break out rooms during Zoom

Resource	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 **Google Classroom** **Task** **Resources**	**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 4 (Correlation). Pages 66 and 67. Questions: 3, 4, 5 and 7** **Work will be assigned in Google Classroom.** **Text Book :** Statistics and Mechanics Year 1 / AS