YEAR 12 – MATHEMATICS Week 41(13th June-17th June 2021)

Subject	**Mathematics**
Class/ Section	**Year 12 – Batch A, B and C**
Week	**13th June to 17th June 2021**
Work send to students by	**Group email / Google classroom / Zoom**
Total number of lessons per week	**5**
Units	**Pure Mathematics – Year 2** **Chapter 4 – Binomial Expansion** **4.1 – Expanding $(1 + x)^n$** **4.2 – Expanding $(a + bx)^n$** **4.3– Using partial fractions**
Lessons 1 &2 Live Zoom	**Pure Mathematics – Year 2** **Chapter 4 – Binomial Expansion** **4.1– Expanding $(1 + x)^n$** **4.2– Expanding $(a + bx)^n$** **Learning objective – To expand $(1 + x)^n$ for any rational constant n and determine the range of values of x for which the expansion is valid. To expand $(a + bx)^n$ for any rational constant n and determine the range of values of x for which the expansion is valid.** **Intended Learning Outcomes** --Students will be able to understand that if n is a natural number theycan find the binomial expansion for $(a+bx)^n$ using the formula: $(a+b)^n = a^n + \binom{n}{1} a^{n-1}b + \binom{n}{2} a^{n-2}b^2 + \cdots + \binom{n}{r} a^{n-r}b^r + \cdots + b^n$ If n is a fraction or a negative number students will be made to understand to use a different version of the binomial expansion. --Students will be able to understand that the binomial expansion $(1+x)^n$ can be used to expand $(a+bx)^n$ for any constants a and b, by justtaking a factor of a^n out of the expression: $(a+bx)^n = \left(a\left(1 + \frac{b}{a}x\right)\right)^n = a^n\left(1 + \frac{b}{a}x\right)^n$. The expansion of $(a+bx)^n$, where n is negative or a fraction, is valid for $\left\|\frac{b}{a}x\right\| < 1 \text{ or } |x| < \left|\frac{a}{b}\right|$
Tasks	To complete the questions assigned from the Textbook (pdf) in their notebook. Students will be put in break out rooms during Zoom lessonto encourage collaborative learning.

Resources	1. Power point presentation 2. Pure Mathematics Year 2 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ https://www.examsolutions.net/
Lessons 3 & 4Live Zoom lessons **Tasks** **Resources**	**Pure Mathematics – Year 2** **Chapter 4 – Binomial Expansion** **4.3– Using partial fractions** **Learning objective – To use partial fractions to expand fractionalexpressions.** **Intended Learning Outcomes** --Students will be able to understand that partial fractions can be used to simplify the expansions of more difficult expressions. They need to understand, while finding the validity of the expansion, if two or moreranges of values of *x* are involved; they need to go for the intersectionof those ranges. To complete the questions assigned from the Textbook (pdf) in their notebook. Students will be put in break out rooms during Zoom lessonto 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 5 –GOOGLE CLASS ROOM **Tasks** **Resource**	**To do problems involving Chapter 4 –Binomial Expansion** **Intended Learning Outcome:** **By the end of the lesson students will be able to do problems from the** **Mixed exercise – Chapter 4 - Binomial Expansion** **Pages 104 &105 questions 2,6,7,14,15** **Questions** **Work will be assigned in Google Classroom.** **Text Book :** Pure Mathematics Year 2