YEAR 13 – MATHEMATICS (Week 24)

Subject	**Mathematics**
Class/ Section	**Year 13 – Batch A, B and C**
Week	**07th February to 11th February 2021**
Work send to students by	**Group email / Google classroom / Zoom**
Total number of lessons per week	**3**
Units	**Pure Mathematics – Year 2** **Chapter 11 – Integration**
Lesson 1 – Live Zoom lesson **Tasks** **Resources**	**11.5 – Integration by substitution** **Learning objective** – **To integrate functions by making a substitution.** **Intended Learning Outcomes** --Students will be able to understand that sometimes we can simplify an integral by changing the variable. The process is similar to using the chain rule in differentiation and is called integration by substitution. 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 2 –Live Zoom lesson	**11.6 – Integration by parts** **<u>Learning objective</u> – To integrate functions using integration by parts.** **<u>Intended Learning Outcomes</u>** --Students will be able to understand that we can rearrange the product rule for differentiation. $$\frac{d}{dx}(uv) = u\frac{dv}{dx} + v\frac{du}{dx}$$ $$u\frac{dv}{dx} = \frac{d}{dx}(uv) - v\frac{du}{dx}$$ $$\int u\frac{dv}{dx}dx = \int \frac{d}{dx}(uv)dx - \int v\frac{du}{dx}dx$$ Integration by parts: $$\int u\frac{dv}{dx}dx = uv - \int v\frac{du}{dx}dx$$
Tasks **Resource**s	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/
Lesson 3–Live Zoom lesson	**11.7 – Partial fractions** **<u>Learning objective</u> – To integrate functions using partial fractions.** **<u>Intended Learning Outcomes</u>** --Students will be able to understand that Partial fractions can be used to integrate algebraic fractions. Using partial fractions enables an expression that looks hard to integrate to be transformed into two or more expressions that are easier to integrate.
Tasks **Resource**s	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/