YEAR 13 – MATHEMATICS (Week 12)

Subject	**Mathematics**
Class/ Section	**Year 13 – Batch A, B and C**
Week	**15th November to 19th November 2020**
Work send to students by	**Group email / Google classroom / Zoom**
Total number of lessons per week	**3**
Units	**Pure Mathematics – Year 2** **Chapter 8 – Parametric Equations** **Chapter 9 – Differentiation**
Lesson 1 – Live Zoom lesson **Tasks** **Resources**	**8.4 – Points of intersection** **8.5 – Modelling with parametric equation** **Learning objective** – **To solve coordinate geometry problems involving parametric equations. To use parametric equations in modelling in a variety of contexts.** **Intended Learning Outcomes** --Students will be able to use solve coordinate geometry problems involving parametric equations. --Students will be able use parametric equations to model real life situations. Students will use parametric equations with time as a parameter to model motion in two dimensions. 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 **Tasks** **Resources**	**9.1 – Differentiating sin x and cos x** **9.2 – Differentiating exponentials and logarithms** **<u>Learning objective</u> – To differentiate trigonometric functions. To differentiate exponentials and logarithms.** **<u>Intended Learning Outcomes</u>** --Students will be able to differentiate sin x and cos x from first principles. In small angle approximation, sin x is approximated as x and cos x is approximated as $1 - 0.5x^2$ --Students will be able to differentiate expressions involving exponentials and logarithms 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 **Tasks** **Resources**	**9.3 – The chain rule** **9.4 – The product rule** **<u>Learning objective</u> – To differentiate functions using the chain, product and quotient rules.** **<u>Intended Learning Outcomes</u>** --Students will be able to use the chain rule to differentiate composite functions, or functions of another function. The chain rule is (dy/dx) = (dy/du) x (du/dx) --Students will be able to differentiate the product of two functions. If y=uv then (dy/dx) = u (dv/dx) + v (du/dx), where u and v are functions of x. The product rule in function notation is: If f(x) = g(x)h(x) then f ’(x) = g(x)h(x) then f ‘(x) = g (x) h’(x) + h(x) g’(x) 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 3 https://www.physicsandmathstutor.com/ 4 https://www.drfrostmaths.com/ 5 https://www.examsolutions.net/