YEAR 13 – MATHEMATICS (Week 10)

Subject	**Mathematics**
Class/ Section	**Year 13 – Batch A, B and C**
Week	**1st November to 5th 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 7 – Trigonometry and Modelling**
Lesson 1 – Live Zoom lesson **Tasks** **Resources**	**7. Trigonometry and Modelling** **7.1 - Addition formula** **7.2 – Using the angle addition formulae** **Learning objective** – **To prove and use the addition formulae.** **Intended Learning Outcomes** --Students will be able to understand the addition formulae of sine, cosine and tangent. Sin (A + B) ≡ Sin A Cos B + Cos A Sin B, Sin(A+B) ≡ Sin A Cos B – Cos A Sin B, Cos (A + B) ≡ Cos A Cos B – Sin A Sin B, Cos (A – B) ≡ Cos A Cos B + Sin A Sin B, Tan (A + B) ≡ (tan A + tan B) / (1 – tan A tan B), Tan (A – B) ≡ (tan A – tan B) / (1 + tan A tan B). The addition formula can be used to find exact values of trigonometric functions of different angles. 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	**7.3 – Double angle formulae.** **7.4 – Solving trigonometric equations.** **<u>Learning objective</u> – To understand and use the double angle formula. To solve trigonometric equations using the double-angle and addition formulae.** **<u>Intended Learning Outcomes</u>** --Students will be able to use the addition formula to derive the following double angle formula. Sin 2A ≡ 2 Sin A Cos A Cos 2A ≡ Cos^2 A – Sin^2 A ≡ 2Cos^2 A – 1 ≡ 1 – 2 Sin^2 A Tan 2A ≡ (2tan A) / (1 – tan^2 A) . --Students can use the addition formula and the double-angle formula to help you solve trigonometric equations. 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/
Tasks **Resources**	
Lesson 3–Live Zoom lesson	**7.5 – Simplifying a cos *x* +/- b sin *x*** **<u>Learning objective</u> – To write expressions of the form a cos θ +/- b sin θ in the forms R cos (θ +/- α) or R sin (θ +/- α)** **<u>Intended Learning Outcomes</u>** --Students will be able to use the addition formula to simplify some trigonometric expressions. For positive values of a and b, a sin x +/- b cos *x* can be expressed in the form R sin (x +/- α) a cos x +/- b sin *x* can be expressed in the form R cos (x +/- α) with R > 0 and 0 < α < 90° (or π/2) Where R cos α = a and R sin α = b and R = Sq. Rt (a^2 + b^2).
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 2 3. https://www.physicsandmathstutor.com/ 4. https://www.drfrostmaths.com/ 5. https://www.examsolutions.net/