Knowledge Rich Curriculum Plan

Year 12 Maths

Unit 3 - Equations and inequalities

Maths Year 12	Unit: Equations and inequalities			
Lesson/Learning Sequence	**Intended Knowledge:** *Students will know that…*	**Tiered Vocabulary**	**Prior Knowledge:** *In order to know this students, need to already know that…*	**Assessment**
Lesson 10: Linear simultaneous equations/Quadratic simultaneous equations Lesson Objective: To learn how to solve linear and quadratic simultaneous equations.	• Students will know how to solve linear simultaneous equations by elimination. • Students will know how to solve simultaneous equations by substitution. • Students will know how to solve quadratic simultaneous equations.		• *Students need to know how to collect like terms.* • *Students need to know how to solve linear equations.* • *Students need to know how to rearrange formulae.* • *Students need to know how to substitute into a formula.* • *Students need to know how to factorise quadratic expressions.* • *Students need to know how to solve quadratic equations.*	
Lesson 11: Simultaneous equations on graphs Lesson Objective: To learn how to solve simultaneous equations graphically.	• Students will know how to draw two linear graphs and find the point of intersection. • Students will know how to draw one linear graph and one quadratic graph to find the points of intersection. • Students will know how to use the discriminant to find the number of possible solutions.		• *Students need to know how to draw a linear graph.* • *Students need to know how to draw a quadratic graph.* • *Students need to know how to calculate the discriminant.* • *Students need to know how to solve linear simultaneous equations.* • *Students need to know how to solve quadratic simultaneous equations.*	
Lesson 12: Linear inequalities/Quadratic inequalities Lesson Objective: To learn how to solve linear and quadratic inequalities.	• Students will know how to solve linear inequalities. • Students will know how to draw and use a number line to represent linear inequalities. • Students will know how to find the set of values for which multiple linear inequalities are true. • Students will know how to solve quadratic inequalities. • Students will know how to draw a quadratic graph to find the range of possible solutions. • Students will know how to find the set of values for which multiple linear and quadratic inequalities are true. • Students will know that multiplying or dividing an inequality by a negative number will result in the inequality sign to change direction. • Students will know how to represent answers in set notation form.		• *Students need to know the meaning of inequality signs and what they represent.* • *Students need to know how to solve linear equations.* • *Students need to know how to represent linear inequalities on a number line.* • *Students need to know how to rearrange formulae.* • *Students need to know how to factorise quadratic expressions.* • *Students need to know how to solve quadratic equations.* • *Students need to know how to sketch a quadratic graph.*	

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Lesson 13: Inequalities on graphs Lesson Objective: To learn how to solve inequalities on a graph.	• Students will know how to use a graph to find the range of solutions that satisfy a given linear inequality. • Students will know how to use a graph to find the range of solutions that satisfy a given quadratic inequality.		• *Students need to know the meaning of inequality signs and what they represent.* • *Students need to know how to draw a linear graph.* • *Students need to know how to draw a quadratic graph.* • *Students need to know how to solve simultaneous equations using elimination or substitution.* • *Students need to know how to solve simultaneous equations graphically.* • *Students need to know how to rearrange formulae.*	
Lesson 14: Regions Lesson Objective: To learn how to represent inequalities using regions.	• Students need to know the meaning of inequality signs and what they represent. • Students will know when an equality is greater than or less than to use a dotted graph to represent it. • Students will know when an equality involves an equal to sign, to use a solid graph to represent it. • Students will know how to represent linear inequalities on a graph. • Students will know how to represent quadratic inequalities on a graph. • Students will know how to shade the graph to represent all the possible solutions for linear inequalities. • Students will know how to shade the graph to represent all the possible solutions for linear and quadratic inequalities.		• *Students will need to know how to draw a linear graph.* • *Students will need to know how to draw a quadratic graph.*	