The Sutton Academy

Knowledge Rich Curriculum Plan

Year 11 Higher+ Ratio and Proportion

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Steps to Success	Prior Knowledge: *In order to know this students, need to already know that…*	Feedback
To learn how to solve problems involving ratio	• Students will know how to share an amount in a given ratio • Students will know how to find quantities within a ratio when the value of one part is given. • Students will know how to find quantities within a ratio when the difference between two parts is given. • Students will know how to solve more complex ratio problems including those which involve percentages and fractions • Students will know how to combine two ratios in the form a:b, b:c etc. and use them for comparison between three parts.	Ratio - in mathematics, a ratio indicates how many times one number contains another. Share – split up between parts	•	• Students should already know how to express a worded situation in the form of a ratio • Students should already know how to simplify ratio to their simplest form and write a ratio in the form 1 : n or n : 1 • Students should already know how to share an amount in a given ratio • Students should already know how to write parts of a ratio as fractions	Exam Prep 4
To learn how to solve more complex problems involving ratio	• Students will know how to solve more complex problems involving ratio • Students will know how to solve problems involving converting ratio into fractions • Students will know how to solve algebraic ratio problems where they are required to form and solve equations involving algebraic fractions	Lowest Common Multiple – the smallest number that is in both numbers multiplication tables	•	• Students need to know how to solve equations involving fractions	Exam Prep 4
To learn how to solve real life problems involving inverse proportion Boost topic	• Students will know the difference between direct and inverse proportion • Students will know how to solve real life problems involving inverse proportion without using algebra (e.g. number of worker problems etc.)	Inverse – Opposite Inverse Proportion – If two things are inversely proportional then as one increases the other decreases or vice versa Proportion – a part, share, or number considered in comparative relation to a whole			Exam Prep 4
To learn how to solve algebraic direct proportion problems	• Students will know how to solve algebraic direct proportion problems by writing an algebraic statement in the form y = kx before substituting in given values to find the value of k and then using the resultant formula to find further missing values. • Students will know that k is known as the constant of proportionality	Direct Proportion – If two things are directly proportional then if one increases, so does the other, if one decreases, then so does the other Constant – a quantity or parameter that does not change its value whatever the value of the variables	•	• Students will need to know how to substitute numbers into formulae • Students will need to know how to solve simple step equations in the form a = bx, a = bx^2 etc.	Exam Prep 4

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Steps to Success	Prior Knowledge: *In order to know this students, need to already know that…*	Feedback
	• Students will know how to solve algebraic direct proportion problems involving powers and roots				
To learn how to solve algebraic inverse proportion problems	• Students will know how to solve algebraic inverse proportion problems by writing an algebraic statement in the form y = k/x before substituting in given values to find the value of k and then using the resultant formula to find further missing values. • Students will know that k is known as the constant of proportionality • Students will know how to solve algebraic inverse proportion problems involving powers and roots.	Inverse Proportion – If two things are inversely proportional then as one increases the other decreases or vice versa Constant – a quantity or parameter that does not change its value whatever the value of the variables	•	• Students will need to know how to substitute numbers into formulae • Students will need to know how to solve one step equations involving fractions	Exam Prep 4
To learn how to solve more complex direct and inverse proportion problems	• Students will know how to solve more complex problems involving direct and inverse proportion algebraically • Students will know how to form equations by combining expressions for algebraic and inverse proportion	Direct Proportion – If two things are directly proportional then if one increases, so does the other, if one decreases, then so does the other Inverse Proportion – If two things are inversely proportional then as one increases the other decreases or vice versa	•	• Students will need to know how to solve algebraic direct and inverse proportion problems	Exam Prep 4