



The Sutton Academy

Knowledge Rich Curriculum Plan

Year 11 Higher+ Probability

Lesson/Learning Sequence	Intended Knowledge: <i>Students will know that...</i>	Tiered Vocabulary	Steps to Success	Prior Knowledge: <i>In order to know this students, need to already know that...</i>	Feedback
To learn how to simplify and add and subtract algebraic fractions	<ul style="list-style-type: none"> Students will know how to simplify algebraic fractions Students will know how to add and subtract algebraic fractions where the denominator is numerical Students will know how to add and subtract algebraic fractions where the denominator is algebraic Students will know how to solve equations involving the addition and subtraction of algebraic fractions but only where the denominator is numerical 	Denominator – the bottom number in a fraction Numerator – the top number in a fraction	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students will need to know how to factorise into single brackets Students will need to know how to factorise into double brackets Students will need to know how to add and subtract fractions Students will need to know how to expand brackets 	Exam Prep 3
To learn how to multiply and divide algebraic fractions	<ul style="list-style-type: none"> Students will know how to multiply and divide algebraic fractions and will understand why factorisation and cross-cancelling is the easiest method for this 		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students will need to know how to multiply and divide fractions Students will need to know how to factorise into single and double brackets 	Exam Prep 3
To learn how to solve equations and more complex problems involving algebraic fractions	<ul style="list-style-type: none"> Students will know how to solve equations where algebraic fractions need to be added, subtracted etc. first Students will know how to add and subtract algebraic fractions from integers Students will know how to apply BIDMAS and simplify expressions involving algebraic fractions where a combination of operations are involved 		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students will need to know how to add, subtract, multiply and divide algebraic fractions 	Exam Prep 2
To learn how to draw and use tree diagrams for independent events	<ul style="list-style-type: none"> Students will know how to show given information on a probability tree diagram. Students will know how to complete probabilities using both decimals and fractions to represent probabilities Students will know construct a probability tree for multiple events Students will know how to use a probability tree diagram to represent outcomes of combined independent events (with replacement) Students will know how to use tree diagrams to calculate the probability of two combined independent events by multiplying across the branches (this can either be fractions or decimals) 	Independent – not subject to control by anything else Independent Events – Two events are independent if the occurrence of one event does not affect the chances of the occurrence of the other event	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students will need to know that the probability of all possible outcomes for an event add to 1 Students will need to know how to multiply decimals Students will need to know how to multiply fractions 	

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To learn how to solve conditional probability problems using tree diagrams	<ul style="list-style-type: none"> Students will understand how and why the outcome of one event can impact the outcome of a subsequent event Students will know how to complete and construct probability trees for dependent events Students will know how to use probability trees to calculate the probabilities of combined events for dependent events 	<p>Dependent – determined by</p> <p>Conditional/ Dependent Events – events whose outcomes rely on that of another event</p>	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students will need to know how to multiply decimals Students will need to know how to multiply fractions 	
To learn how to solve algebraic problems using tree diagrams	<ul style="list-style-type: none"> Students will know how to form algebraic fractions to represent the probability of an event happening Students will know how to solve algebraic problems using tree diagrams and algebraic fractions 		<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students will need to know how to expand brackets Students will need to know how to solve equations involving fractions Students will need to know how to solve quadratic equations 	
To learn how to draw and use Venn diagrams to calculate probabilities	<ul style="list-style-type: none"> Students will know how to put information into a Venn diagram and use it to determine probabilities Students will know how to construct appropriate Venn diagrams to sort information Students will know how to interpret a Venn diagram to find probabilities Students will know how to use very simple set notation to describe parts of the Venn diagram e.g. (A), (B), (A'), (B') Students will know how to use union ($A \cup B$) and intersection ($A \cap B$) notation Students will know how to find probabilities using union and intersection notation 	<p>Venn Diagram - a diagram representing mathematical or logical sets as circles within an enclosing rectangle (the universal set), common elements of the sets being represented by intersections of the circles.</p> <p>Universal Set - a set which contains all objects, including itself</p> <p>Intersection – A point, area or line that is common to two or more things. For a Venn diagram the intersection is the overlap between the two circles</p> <p>Union - The set made by combining the elements of two sets. So the union of sets A and B is the set of elements in A, or B, or both.</p>	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Students should know how to sort information into a simple Venn diagram 	