

Mathematics	Topic: Probability
Term 2 2018	03MA1A

Lesson Plan

Week 9: Friday, Lessons 5-6 (80 mins)

Topic Details Tree diagrams, venn diagrams, and two-way tables. Intersections and Unions, the addition rule and conditional probabilities.	Previous lesson (prior knowledge) In the previous lesson they starting working on the booklet of worksheets I handed out (see attached, solutions also attached). These contain questions covering a wide variety of probability questions accross the whole (2 week) topic.
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Learning Intentions

Students will:

- Understand what is required from them to achieve a 4 in the probability test next week.
- Be able to identify what probability questions are asking them to do by looking for certain key words/ phrases.
- Be able to access to a comprehensive list of knowledge required for the probability topic.

Time (mins)	Teacher Activity	Student Activity	Resources
5min	Take the role	Settling down.	
5min	Ask the class if there is a particular concept from the previous class they would like me to go through, and if anyone answers go through that concept again.	Suggesting concepts they would like me to revise.	Whiteboard
5min	Go through the three-step process required to answer Level	Sitting, listening, participating.	Whiteboard, Handwritten

Senior Mathematics Curriculum and Methodology A

	1-4 questions: formula, substitute, simplify, with an example. Explain that if students can master this, they will be able to get a 4 on the test, and that the remainder of the material is what is required to get better than a 4. Emphasise this point.		summary, see photo below.
20-25min	Providing one-on-one support.	Working through worksheet questions.	Attached worksheets (solutions also attached).
5min	Go through some key points about constructing and interpreting diagrams, specifically: <ul style="list-style-type: none"> - In a Venn diagram to include the box, and that there can be people/items/events outside the circles. - In a tree diagram that final outcome probabilities can be calculated by multiplying together the probabilities along that branch. 	Sitting, listening, participating.	Whiteboard, Handwritten summary, see photo below.
40min	Providing one-on-one support.	Working through worksheet questions.	Attached worksheets (solutions also attached).



Evaluation/Assessment

Asking for student participation by asking for answers to scenarios, and then mostly through one-on-one observation of student work and asking leading questions during one-on-one support.

Handwritten summary (to be uploaded to Daymap):

Level 4

Answer questions like: "Determine the probability of..." or "What is the probability of..." using a 3-step process: formula, substitute, simplify, or "How many..." (count).

Level 5-8

- * Be able to construct & interpret
 - Venn Diagrams (include box & be aware it can contain ~~end~~)
 - Tree Diagrams (calculate final probabilities by multiplying down branches)
 - Two-way tables.
- * Be able to answer questions involving intersections & unions
 - Intersections, "A and B", $P(A \cap B)$
 - Unions, "A or B", $P(A \cup B)$
 - Negation, "not A", $P(A')$
 - & combinations, for example:
 - "only A", means A but not B, $P(A \cap B')$
 - "neither A nor B" means not A or B, $P(A' \cap B')$
- * The Addition Rule $P(A \cup B) = P(A) + P(B) - P(A \cap B)$ is a special ~~case~~ way to calculate unions.
- * "Mutually exclusive events" are events whose intersection is empty
- * Be able to ~~find~~ find conditional probabilities: questions phrased "If... is selected from A, find the probability of B",

$$P(B|A) = \frac{\#B \cap A}{\#A}$$
- * Independent events are those that satisfy $P(A \cap B) = P(A)P(B)$

* : Key Points
* : Less critical points.