Week 7
Term 3
2016

Learning Brief

SM4 Probability & Statistics

Goals

Unit goals covered so far

- Formalise intuitive work on probability
- Manipulate and apply various probability and counting concepts
- Apply permutations and combinations to probability

Theoretical Components

- define experiment, outcome, event, probability and equally likely.
- recognize the difference between outcomes that are equally likely and not equally likely to occur.
- examine the sample space and probabilities for experiments.
- list all outcomes for single events, and for two successive events, in a systematic way: use a tree diagram to help to do this.
- determine the probability of simple and compound events
- use tree diagrams, Venn diagrams and Karnough maps to determine the sample space and probability of compound events
- use addition principle to compute probabilities of mutually exclusive (and non-mutually exclusive or inclusive) events.
- use the formula for conditional probability.
- use the multiplication rule to find the probability of the intersection of two events.
- make use of Markov chains to investigate the transition from one state to another
- use ${}^{n}P_{r}$ to count number of possible arrangements (permutations)
- calculate arrangements with restrictions
- use permutations and combinations to compute probability

Practical Components

None this week. You can redo the quizzes as this is good practice for the test.

Important: Make sure are confident in using your CAS. You need to be able to calculate factorials, nPr, nCr
See Steve if you would like any help with this.

Investigation

Prepare your summary sheet – to be handed in with the test.
Make sure you have the 5 investigations done so far marked off and in a folder.

QFO

Quiz/Forum/Other

None