

Topic	What students need to learn:		
	Content	Guidance	
7 Probability generating functions	7.1	Definitions, derivations and applications. Use of the probability generating function for the negative binomial, geometric, binomial and Poisson distributions.	
	7.2	Use to find the mean and variance.	Proofs of standard results may be required.
	7.3	Probability generating function of the sum of independent random variables.	$G_{X+Y}(t) = G_X(t) \times G_Y(t)$ Derivation is not required.