Week 17/18
Term 2
2019

HAWKER COLLEGE
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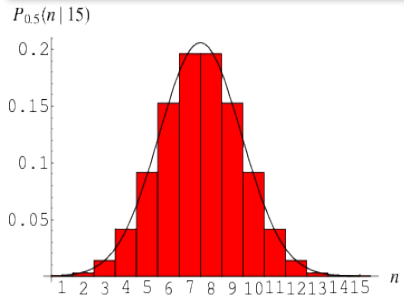
Learning Brief MM3: Integration, Discrete and Binomial Distributions

Goals



By the end of this fortnight, you should be able to:
(Same as last brief)
- understand probability distributions for discrete random variables
- understand Bernoulli trials
- understand binomial theorem and binomial probability distribution
- recognise situations when the binomial distribution applies and learn how to solve problems involving the binomial distribution
- recognise and use the formula and CAS for binomial probabilities and graphs
- understand the assumptions on which the binomial model is based

REVIEW all topics since Week 8

Theoretical Components

BINOMIAL DISTRIBUTION:
You will require Chapter 11 of Quest Mathematical Methods 12 (Jacplus e-text):
- Read through Section 11A & 11B on Binomial Distributions. Study and make notes on examples 1-5.

https://www.youtube.com/watch?v=xNLQuuvE9ug

https://www.youtube.com/watch?v=WWv0RUxDfbs

http://stattrek.com/probability-distributions/binomial.aspx

$\Pr(X = x) = {}^{n}C_x\, p^x q^{n-x}$ where $x = 0, 1, 2, \ldots n$.
That is:

x = the occurrence of the successful outcome.

The formula may also be written as:

$\Pr(X = x) = {}^{n}C_x\, p^x (1-p)^{n-x}$ where $x = 0, 1, 2, \ldots n$.

Here, the probability of failure, q, is replaced by $1 - p$.

Practical Components

Maths Quest 12 Methods

Finish Chapter 11 Ex 11D

Chapter Reviews

Chapter 9 – Integration
Chapter 10 – Discrete Random Variables
Chapter 11 – The Binomial Distribution

Investigation

Week 17/18

Prepare a one-sided handwritten A4 summary sheet.

Get your investigations and journal entries up to date.

QFO

Quiz/Forum/Other

Be sure to regularly check the Google Classroom for messages and links.