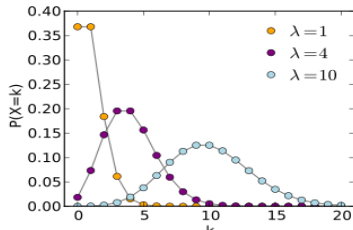


Goals



Unit goals

- Understand the concepts and techniques in statistics
- Solve problems in statistics
- Interpret and evaluate mathematical and statistical information

By the end of this week, you should be able to:

- understand probability distributions for discrete random variables
- compute the central tendency and variability of discrete distributions (i.e. find the mean and variance of a discrete probability distribution)
- compute the 95% confidence interval for a random variable, given the mean and the variance

Theoretical Components

From the *PDF* file Chap 10:

- Read through Section 10B, 10C & 10D on Discrete Prob Distributions. Look carefully at Worked Examples 12-32.

You will require Chapter 4 Reasoning and Data:

- This shows another method of finding variance.

Expected Value:

<https://www.youtube.com/watch?v=eIZKor-h48&spfpreload=5>

http://www.youtube.com/watch?v=j_Kredt7vY&list=PL4C863861E3B2E380

Mean and Variance of Expected Values

<http://www.youtube.com/watch?v=OvTEhNL96v0&list=TL1pBhdAQ4PrpbEtsIhLFJqszyvaUiVnhp>

Nice set of notes and useful examples:

<http://www.intmath.com/counting-probability/11-probability-distributions-concepts.php>

Make sure you are confident about the following key concepts:

- Discrete and continuous variables
- Notion of random
- Mean as expected value
- Variance as a measure of spread
- Interpreting the standard deviation

Practical Components

You will require the *PDF* file Chap 10 (on Google Classroom))

Do the following questions.

Ex 10B: 1, 3, 5, 7, 8, 13

Ex 10C: 1, 3, 7, 10, 12, 16, 18, 19

Ex 10D: 1, 3, 5, 7, 12, 13, 14, 15, 20

From Chapter 4 of Reasoning and Data:

Use the methods from Chap 10

Ex. 4C: Questions 4-7.

Investigation

On HawkerMaths.

Quiz

None this week