chapter 03

3.1 Introduction

3.2 The Discrete Case

Conditional Probability Mass Function

One of the most useful concepts in probability theory is that of

conditional probability and conditional expectation.

Conditional Distribution Function and

Conditional Expectation

Remarks

3.3 The Continuous Case

Conditional Probability Density Function

The Conditional Expectation

3.4 Computing Expectations by Conditioning

Proof of Equation (3.3)

The Expectation of the Sum of a

Random Number of Random Variables

3.4.1 Computing Variances by Conditioning

Proposition 3.1 The Conditional Variance Formula

Definition

3.5 Computing Probabilities by Conditioning

Definition