Probability and Statistics (MA6.101)

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Probability (contd.)

Probability Mass Function

If X is a random variable with countable range. The function

$$P_X(x_k) = P(X = x_k)$$

is called the probability mass function (PMF) or probability distribution.

Expectation

The expected value of a random variable X is defined as

$$E[X] = \sum_k P(x_k) \cdot x_k.$$

The expected value satisfies

$$E[aX + b] = aE[X] + b.$$