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Autore	Promislow S. David
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Standard notation and terminology; 3.7 A sample table; Notes and references; Exercises; 4 Life annuities; 4.1 Introduction; 4.2 Calculating annuity premiums; 4.3 The interest and survivorship discount function; 4.3.1 The basic definition; 4.3.2 Relations between y_x for various values of x ; 4.4 Guaranteed payments; 4.5 Deferred annuities with annual premiums; 4.6 Some practical considerations; 4.6.1 Gross premiums; 4.6.2 Gender aspects; 4.7 Standard notation and terminology; 4.8 Spreadsheet calculations; Exercises; 5 Life insurance; 5.1 Introduction; 5.2 Calculating life insurance premiums; 5.3 Types of life insurance; 5.4 Combined insurance-annuity benefits; 5.5 Insurances viewed as annuities; 5.6 Summary of formulas; 5.7 A general insurance-annuity identity; 5.7.1 The general identity; 5.7.2 The endowment identity; 5.8 Standard notation and terminology; 5.8.1 Single-premium notation; 5.8.2 Annual-premium notation; 5.8.3 Identities; 5.9 Spreadsheet applications; Exercises; 6 Insurance and annuity reserves; 6.1 Introduction to reserves; 6.2 The general pattern of reserves; 6.3 Recursion; 6.4 Detailed analysis of an insurance or annuity contract; 6.4.1 Gains and losses; 6.4.2 The risk-savings decomposition; 6.5 Bases for reserves; 6.6 Nonforfeiture values; 6.7 Policies involving a return of the reserve; 6.8 Premium difference and paid-up formulas; 6.8.1 Premium difference formulas; 6.8.2 Paid-up formulas; 6.8.3 Level endowment reserves; 6.9 Standard notation and terminology; 6.10 Spreadsheet applications; Exercises; 7 Fractional durations; 7.1 Introduction; 7.2 Cash flows discounted with interest only

Sommario/riassunto

Provides a comprehensive coverage of both the deterministic and stochastic models of life contingencies, risk theory, credibility theory, multi-state models, and an introduction to modern mathematical finance. New edition restructures the material to fit into modern computational methods and provides several spreadsheet examples throughout. Covers the syllabus for the Institute of Actuaries subject CT5, Contingencies. Includes new chapters covering stochastic investments returns, universal life insurance. Elements of option pricing and the Black-Scholes formula will be introduced.
