

Index

- A**
- Account value, difference (example), 11
 - Adjustable rate mortgage, monthly payments, 113–114
 - Amortization. *See* Loan amortization
 - process, 111, 113
 - Annual compounding, continuous compounding (contrast), 19e
 - Annual growth rates, geometric average, 80–81
 - Annual interest
 - example, 30
 - payment, example, 31
 - rate, calculation, 68
 - Annual payments, 104–105
 - calculations, 127–128
 - Annual percentage rate (APR), 15, 66
 - calculator applications, 75–77
 - definition, 261
 - determination, 109
 - discounting, 30e
 - division, 74
 - examples, 66–67
 - formula, 257
 - information, translation, 106
 - specification, 65
 - spreadsheet applications, 75–77
 - usage, 105–106
 - Annual percentage yield (APY), 70.
 - See also* Savings
 - definition, 261
 - Annual return
 - calculation, 188–189
 - time value of money, usage, 188
 - Annual withdrawals, solving, 125
 - Annuities, 54–61. *See also* Deferred annuity; Ordinary annuity
 - consideration, 58
 - deferral, 120
 - definition, 261
 - future value
 - calculation, 59
 - determination, 56
 - goal, meeting, 126–130
 - usage, 128
 - value, representation, 56
 - Annuities due, 55
 - cash flows, occurrence, 59
 - definition, 261
 - future value, 60
 - present value
 - calculation, 60
 - formula, 257
 - problem, 122, 243
 - valuation, 58–60
 - Annuities with annuities, 126–134
 - Apartment living, funds (requirement), 137–138
 - APR. *See* Annual percentage rate
 - Arithmetic average rate, 81
 - Asset purchase, opportunity, 42–43

- Assisted living, funds (requirement), 137
- Automobiles
costs, differences, 225
dealers, financing option, 103–104
depreciation, 223
holding period, 225
leasing, automobile purchase (cost comparison), 222–225
loans, monthly payment (calculation), 223
- Average annual return, 189
formula, 259
- Average return. *See* Geometric average return
- B**
- Balance, amount, 7
- Balloon payment, 109
definition, 261
examples, 109–110
- Bank loans, offer (example), 98–99
- Basic valuation equation, 6
- Basis point, definition, 261
- Beardstown Business and Professional Women's Investment Club, 87
- BEGIN mode, 60
- BEG mode, 60
- Benchmark interest rates, 164
- Boise Cascade Corporation, characteristics, 167–168
- Bond equivalent yield, 143
definition, 261
formula, 258
- Bonds
basics, 142–154
comparison, 158
consideration, 167–168
credit spread, 167–168
creditworthiness, 168
definition, 261
discount sale, 147
face value
 consideration, 161–162
 example, 147–148
legal obligation, 141
maturity, 159
outstanding, example, 156
at par sale, 147
premium sale, maturity value, 146
present value, 143
 face value, equivalence, 147
price
 increase, 157–158
 sensitivities, comparison, 158
purchase, 141
quotes, 149
 terms, 155–156
ratings, 168–169
return, required rate (indication), 143–144
ten-percent coupon, maturity value, 159–160
time passage, 159–160
valuation, 161
 calculation, 148
 formula, 258
 representation, 147
values, change, 150–151
yield, 168–169
 change, 150–151
 consideration, 152
 price, 153
- Bond value, 141
bond principal, repayment (impact), 32
calculation, 142
change, 150, 157–159
consideration, 152

- face value, relationship, 150
 - interest, present value (impact), 32
 - maturity length, 158e
 - percentage value, 158
 - Borrowing, interest terms (example), 67–68
 - Burial expenses, calculation, 134–135
 - Burial insurance, 134
 - C**
 - Calculator functions, usage (example), 13–14
 - Capital
 - budgeting, 197
 - definition, 261
 - techniques, 214
 - cost. *See* Cost of capital
 - opportunity cost, 134–135
 - rationing, 201
 - absence, 207
 - definition, 261
 - yield, 187
 - definition, 261
 - realization, 190–191
 - return, 190
 - Capitalization rate, 52–53
 - definition, 261
 - Capitalizing, 175
 - Cars. *See* Automobiles
 - Cash dividends, 163
 - definition, 261
 - Cash flow (CF)
 - absence, 12
 - consideration, 49–50
 - application, 50–51
 - diagramming, example, 32
 - discounting. *See* Future cash flows
 - equivalence, 32–33
 - usage. *See* Multiple cash flows
 - entry, difference, 240–241
 - examination, 183
 - expectation, example, 212
 - financial calculator keys, 237
 - functions, 239–241, 252–253
 - indication, notation (usage), 57
 - insertion, 84–85
 - IRR, 192
 - list saving, 241
 - notation, usage, 55
 - occurrence. *See* First cash flow
 - reinvestment, 33
 - assumption, 208
 - representation. *See* Discounted cash flows
 - series. *See* Even cash flows
 - present value calculation, 47, 119–120
 - valuation equation, 161
 - set, consideration, 240
 - shortcuts, usage, 242
 - stream
 - perpetuity, 51–52
 - present value, formula, 256
 - return, solving. *See* Uneven cash flow stream
 - sum, present value, 51
 - time line, 183–184
 - timing
 - investigation, 243
 - role, 208
 - specification, 250
 - translation, 191–192
 - usage, selection, 198
 - value (determination), interest rate (impact), 49–50
 - zero value, 43
- Cash inflow (CIF), 202
 - consideration, 46
 - identification, 86
 - present value, 199
 - equivalence, 84

- Cash outflow (COF), 202
 identification, 86
 present value, 199
 cash inflow present value,
 equivalence, 205
- Cell references, usage, 251, 252
- Champaign-Urbana MSA home
 price growth, 83–84
- CIF. *See* Cash inflow
- COF. *See* Cash outflow
- Common stock
 definition, 261
 dividends, shift, 176
 investment, 163
 return, 188
 share
 current price, representation,
 176–177
 dividend price, impact, 182
 valuation, 181
 value, formula, 258
 valuation, 176–179
 dividend rate, change, 181–185
 value, formula, 258
- Companies
 life cycle, 182
 stock purchase, example,
 191–192
- Compound annual interest,
 example, 8e
- Compounded interest, simple
 interest (contrast), 9, 10e
- Compound factor, 6
 definition, 261
- Compounding, 7–11
 APR variation, discounting, 30e
 calculation, advice, 12
 calculator solutions, 11–14
 discounting
 example, 29
 impact, 30
 relationship, 4
 extreme frequency, 73–74
 ignoring, 68
 APR, impact, 69
 interest, interest paid, 14
 involvement. *See* Continuous
 compounding
 math functions, usage, 13
 monthly example, 16
 spreadsheet solutions, 11–14
 translation process, 5
 value, 2
- Compounding frequency, 14–20,
 29–31
 discounting, 30e
 example, 16
 impact, 72e
 interest EAR, relationship, 75
 limit, 18
 usage, 29
- Compounding periods
 determination, financial
 calculator (usage),
 35–36
 logarithms/algebra, usage, 36
 number
 determination, 35–38, 71
 equation, development, 36
 financial calculator/
 spreadsheet functions,
 usage, 37
 infinite result, 74
 rate (i), solving, 106–107
 usage, reason, 153–154
 valuation equation, usage, 35
- Compound interest
 definition, 4, 262
 effects, demonstration, 7–8
 importance, 3
 involvement. *See* Financial
 transactions
 repayment amount, components,
 6

- Compound periods, multiplication
(example), 67
- Consolidated stock (consols), 53
- Consumer transactions, simple
interest (usage), 5
- Continuous compounding
compound factor, calculation, 18
definition, 262
example, 20
formula, 256
investment example, 20
involvement, 17–18
occurrence, 73–74
- Corporate issuer, bonds (seniority),
141
- Cost of capital, 199
application, 24
investment profile, 210e
- Coupon payment, PMT
representation, 143
- Coupon rate, 142
constancy, 150
definition, 262
difference, 149–151
usage, calculation advice, 143
yield, relationship, 147–148,
150
- Coupons, definition, 262
- Credit cards
APR offering, example, 73
interest, example, 67
unpaid balance interest, example,
72
- Credit risk
rating companies, 166
- Credit risk, interest rates
(relationship), 166–167
- Credit spread, 166
definition, 262
ranking, 167
- Crossover discount rate, 211
definition, 262
- Crossover rate, 211
solving, 212–213
- C/Y setting, 233
- D**
- Debt
issuers, risk (change), 149
obligation, property/collateral
specification, 96
present value, 142
securities, characteristics, 163
- Decline, rate, 79
- Default risk, 164
definition, 262
reference, 166
- Deferred annuity, 55
consideration, 120
definition, 262
present value, 121
types, encounter, 124
valuation, 119–125
- Deferred interest, 163
- Deposit, 119
amount, example, 30, 31
balance, determination, 48–49
future value, determination, 133
interest, earnings, 47
present value, 49
series, balance (growth), 49e
solving, basics, 135–138
value, calculation, 47
withdrawals, impact, 122e
- Discounted cash flows, 199
representation, 184
- Discount factor, 6
definition, 262
- Discounting, 23–31
APR, examples, 30
compounding, relationship, 4
continuous compounding, usage,
31
definition, 262

- Discounting (*Continued*)
 example, 29
 periods, number (infinity), 52
 translation process, 5
 usage, 23. *See also* Multiple cash flows
- Discount periods
 number, increase, 23–24
 present value, graphing, 26e, 27e
- Discount rate
 application, 24
 determination, 198–199
 impact. *See* Present value
 indication, 143–144
 present value, 26e, 27e
 translation, 52
- Discounts, premiums (relationship), 146–147
- Discrete compounding
 formula, 256
 function setup, 19
- Discrete payments, usage, 108–109
- Dividends
 assumption, 177
 constant rate growth, formula, 258
 declaration, 181–182
 decline, expectation, 181
 example, 181
 definition, 262
 description, 163
 discount model, 177
 definition, 262
 expectation, calculation, 182
 expected growth, 178
 firm payment, 163
 forecast. *See* Future dividends
 growth
 expectation, example, 179–180, 187
 rate, change, 181–185
 payment, 191
 present value, 183
 rate increase, example, 180–181
 receipt, 85
 representation, 178
 valuation model, 177
 definition, 262
 yield, 187
 components, 190
 definition, 262
- Dividends per share (DPS), definition, 262
- Dollar signs, ignoring, 240
- Dollar-weighted return, 84
 definition, 262
- Downpayment, 109
- DPS. *See* Dividends per share
- E**
e: The Story of a Number (Maop), 74
- Effective annual interest rate basis, credit cost calculation, 75
- Effective annual rate (EAR), 66
 account, calculation, 71–72
 basis, example, 75
 calculation, 70–71, 77
 calculator applications, 75–77
 compounding frequencies, impact, 72e
 continuous compounding, formula, 257
 definition, 262
 demonstration, 69–72
 determination, 109
 discrete compounding, formula, 257
 examples, 72–73
 information, translation, 106
 problem, representation, 76–77
 reference, 69

- spreadsheet application, 75–77
- translation, example, 107–108
- usage, 105–106
- Effective interest rates, example, 91
- END mode, 57, 60
- End of period
 - beginning-of-period, setting (change), 243
 - cash flow
 - occurrence, 252
 - relationship, 192
- Euler's e , 18
 - definition, 262
 - financial math, usage, 74
- Even cash flows, series, 54
- Excel, i calculation, 105
- F**
- Face value, definition, 262
- Face value bond
 - coupon, YTM differences, 151e
 - maturity, 151–152
 - value, 148e
- Federal Truth in Lending Act, 67, 69–70
- Fifth root, calculation, 78
- Final expenses, 134
 - funds, necessity, 136–137
- Finances, planning, 134–135
- Financial arrangements. *See* Loans
- Financial calculations
 - data entry, 250–251
 - guessing, 250
 - performing, 248
 - 0, usage, 249–250
- Financial calculations, spreadsheets (usage), 247
 - basics, 247–248
- Financial calculators
 - advice, 12, 19, 242–243
 - basics, 235–236
 - cash flow
 - functions, 239–241
 - keys, 237
 - data, input methods, 241
 - digits, number display (adjustment), 232
 - double/triple level functions, differences, 235
 - financial functions, 237–241
 - financial functions, usage, 13
 - financial programs, access, 238
 - function registers, clearing, 234
 - future value calculation, 239
 - payment frequency, checking, 232–233
 - preparation, 232–234
 - shortcuts, usage, 242
 - time value of money keys, 237
 - TVM functions, 237–239
 - usage, 11–12, 16, 27, 231
 - example, 236
- Financial management decisions, 186–187
- Financial math
 - example, 8–9
 - usage, 17, 46
- Financial mathematics, functions (usage), 253
- Financial transactions, compound interest (involvement), 5, 10
- Financing transactions, 111
- First cash flow, occurrence, 55, 58–59, 119–120
- Fitch Ratings, 166
- Five-year maturity zero-coupon bond, value, 154e
- Formulas, notation, 255
- 401K, balance, 134
- Four-percent coupon, value, 160e
- Funding requirements, 138

- Funds
 - deposit, interest example, 25
 - opportunity cost. *See*
 - Opportunity cost of funds
- Future cash flows
 - amount/timing, 53
 - discounting, 41
 - estimation, 185
 - percentage, 44
 - series, 120
 - stream, valuation, 42–51
 - translation, discount rate (usage), 53
 - valuation, 143–144
 - values, time movement, 47–48
- Future dividends, forecast, 185
- Future flows, translation, 53
- Future value
 - annuity factor, 57
 - definition, 262
 - calculation, 5, 6, 57
 - example, 10
 - financial calculator usage, 239
 - simple interest, usage, 13–14
 - worksheet function (FV),
 - usage, 12
 - components, 5e
 - continuous compounding,
 - formula, 18, 256
 - discounting, 26
 - usage. *See* Multiple future values
 - discrete compounding, formula, 256
 - goal, 131–133
 - interest rate (6%), example, 10e
 - investment
 - continuous compounded interest, example, 19
 - example, 11–12
 - present value
 - comparison, 50
 - ratio, 77–79
 - relationship, 4
 - translation, 23
- Future value (compounded interest), simple interest (contrast), 10
- FV, worksheet function (usage), 12
- G
- Geometric average return, 81
 - calculation, 189
 - formula, 257
- Geometric mean, definition, 262
- Geometric mean return, 81
- Glossary, 261
- Goggle Docs, usage, 247, 250
- Gold
 - annual return, calculation, 225, 227
 - closing price, 226e
 - factors, 227
 - investment
 - comparison, 227–228
 - quality, 225–230
 - value, increase, 228–229
 - ownership, holding costs, 227
 - price
 - consideration, 225
 - volatility, 227
 - ROI, calculation, 227
 - S&P500 Index value, 228e, 229e
 - volatility, amount, 227
 - year-end price, 226e
- Gordon model, 178
 - definition, 262
- Growth rate, 79
 - change, 177
 - definition, 262
 - differences, 179e
 - specification, 80

H

Hewlett-Packard HP 10B, usage

annual payment, 128

annuity

future value, 60

present value, 60

APR, 76

average annual return, 189

bond valuation, 146

cash flow, 58

cost of capital, 200

crossover rate, 213

discount rate, 155, 206

e calculation, 76

financial calculator, 231

i calculation, 79, 105, 107

interest payments, 145

interest rate, specification, 43

IRR, 45, 85, 191, 205

loan payment, 109

monthly payments, 129

monthly rate, 77

multiple future values, 34

ordinary annuity, 128, 131,
132

PI, 203

PMT, 97

present value, 47, 57, 127

three-payment annuity due, 123

YTM, 156

Hewlett-Packard HP 17B, clearing

function, 234

Hewlett-Packard HP 12C (HP12C),

231

Holding period return (HPR),

85–86

definition, 262

formula, 257

Home mortgage

amortized loan, 96

definition, 262

Home values, index (OFHEO
maintenance), 83

HPR. *See* Holding period return

Hurdle rate, 207

I

i, calculation, 79–80

Implied interest rates, formula,
257

Income supplementation, 203–204

Incremental earnings, 221–222

present value, calculation, 221

Indentures, 149

Index value, 202

Inflation, expected rate, 164

Interest

accumulation, 7–8

annualized rates, 65–77

compounding, 29, 70

calculation requirement,
232–233

curvilinear principal, 101

example, 11

frequency, 14

impact, 132

continuous compounding, 29

definition, 4, 263

EAR, example, 70

effective rate, 69

definition, 262

etymology, 7

present value, 98

semi-annual compounding, 15

stating, methods, 105–106

Interest income, tax treatment, 169

Interest on interest, 6

accumulation, 8e

difference, 10

ignoring, 68

Interest-only (IO) adjustable rate

loan, 109, 112–114

- Interest-only (IO) mortgages,
 - 112–113
 - definition, 263
- Interest payment, 142
 - calculation, 4
 - coupons, relationship, 144
 - example, 16, 67
 - present value, 143
 - sum, 142
 - value, sum, 145
- Interest rate per period
 - calculation, 71
 - increase, 24
- Interest rates, 163–164. *See also*
 - Nominal interest rate
 - application, 24
 - calculation, 164
 - changes, 157–159
 - credit risk, relationship, 166–167
 - determination. *See* Unknown interest rate
 - fifth root calculation, 78
 - estimation, perspective, 88
 - impact, 169
 - lowercase indication, 24
 - RATE function, solving, 250
 - representation, 65–66
 - rules, 88–89
 - solution, 104–105
 - specification, 43, 248
- Internal rate of return (IRR), 45,
 - 192, 204–214. *See also*
 - Multiple internal rates of return
 - arguments, 241
 - assumption, 45
 - calculation, 206–207
 - decision rule, 206–207
 - definition, 263
 - discount rate, relationship, 227
 - examples, 212–214
 - formula, 257, 259
 - function, 85
 - usage, cell references (impact), 53
 - mutually exclusive investments, relationship, 207–208
 - uniqueness, 209e
- International capital markets,
 - Treasury securities (impact), 164
- Investment
 - budget, limitation, 201
 - cash flows, 84, 220–221
 - example, 213–214
 - impact, 206
 - consideration, 209
 - crossover rate, 214
 - IRR, 45
 - calculation, 209
 - mutual exclusivity, 201
 - NPV, 205
 - opportunities, 197
 - advisor suggestion, 41
 - cost, 198–199
 - example, 31, 204–205
 - present value
 - calculation, 25–26, 42–43, 51–52
 - equating, 45
 - profile, 210–212
 - definition, 263
 - graphical depiction, 210
 - return, 87
 - calculation, application, 81
 - cost of capital, comparison, 200–201
 - promise, 32
 - valuation, cash flow (usage), 76
 - value, 80
 - example, 10
 - growth, compounding (impact), 228–229
 - increase, 190

- Investment account
 - balance, 138e
 - solving, example, 125
 - deposit, 131–133
 - example, 125
- Investment grade bonds, 168
- IRR. *See* Internal rate of return
- Iteration, usage, 155
- I/YR, solution, 80
- J**
- Janitors' insurance, 46
- Junk bonds. *See*
 - Noninvestment-grade bonds
- K**
- Key-man insurance, 46
- L**
- Lawsuit settlement, example, 61
- Lending rate
 - APR percentage, impact (example), 72
 - example, 55
- Lessor/lessee
 - definition, 263
 - involvement, 224
- Living expenses, 157
- Loan amortization, 95–104
 - APR, impact, 101e
 - definition, 263
 - example, 102–103
 - interest rate, impact, 100e
 - schedule, 100
 - definition, 263
- Loan payment, 99
 - adjustment, 113
 - amount, 69
 - calculation, 96–97
 - monthly installments, calculation, 107–108
 - recalculation, 112
 - requirement, 99
 - solving, goal, 96–97
- Loans, 95
 - annual payments, 104–105
 - APR, 101
 - arrangements, 105–107
 - confusion, source, 102
 - EAR, 104
 - financial arrangements, 111
 - interest
 - EAR, 108
 - end, payment (requirement), 98
 - interest rate, 98
 - consideration, 108
 - usage, 104–108
 - quarterly payments, example, 97
 - repayment
 - example, 11, 108
 - future value, 99
 - valuation, formula, 258
- Longer-term securities, yields, 166
- Long-term investments, evaluation, 198
- Lottery, winning (example), 60–61
- Lump sum
 - absence. *See* Windfall
 - amount, calculation, 123
 - amount, present value (calculation), 121
 - financial calculator/spreadsheet, usage, 121
 - discounting, 137
 - future value, example, 13–14
 - monthly payments, contrast, 130e
 - payment, example, 25
 - present value, solving, 126–127
 - problems, calculations, 232–233
 - repayment, example, 79

- M**
- Maop, Eli, 74
 - Masters of Business Administration (MBA)
 - NPV, 222
 - obtaining, value, 219–222
 - Math functions, usage, 13
 - Maturity spread, 165
 - definition, 263
 - negative level, 165
 - Maturity value, 142, 149
 - bond, 159e, 160e
 - definition, 263
 - Metropolitan statistical area (MSA), home values, 83
 - Miami-Miami Beach MSA, 83–84
 - Microsoft Excel, usage
 - annual payment, 128
 - annuity
 - future value, 60
 - present value, 60
 - average annual return, 189
 - bond valuation, 146
 - cash flow, 58
 - cost of capital, 200
 - crossover rate, 213
 - discount rate, 155, 206
 - i calculation, 79, 107
 - interest payments, 145
 - interest rate, specification, 43
 - IRR, 45, 85, 191, 205
 - loan payment, 109
 - monthly payments, 129
 - monthly rate, 77
 - multiple future values, 34
 - ordinary annuity, 128, 131, 132
 - PI, 203
 - PMT, 97
 - present value, 47, 57, 127
 - three-payment annuity due, 123
 - YTM, 156
 - Money
 - borrowing, example, 33
 - doubling, determination, 37, 38
 - movement, 4
 - translation, 4
 - tripling, determination, 37
 - Money, time value. *See* Time value of money
 - Money-weighted return, 191, 206
 - application, 84–85
 - calculation, 86
 - time-weighted return, contrast, 85–87
 - usage
 - problem, 87
 - timing, 86–87
 - Monthly payments, 129
 - Moody's Investors Service, 166
 - Mortgage
 - agreement, 96
 - definition, 263
 - EAR, 110
 - payments, 233
 - principal, 110e
 - MSA. *See* Metropolitan statistical area
 - Multiple cash flows
 - discounting, usage, 35
 - present value, 44
 - Multiple future values
 - calculator solutions, 33
 - discounting, usage, 31–35
 - Hewlett-Packard HP 10B, usage, 34
 - Microsoft Excel, usage, 34
 - Texas Instruments TI 83/84, usage, 34
 - Multiple internal rates of return, 208–210
 - calculation, 210

- Mutually exclusive, definition, 263
Mutually exclusive investments, evaluation, 207–208
- N**
Natural logarithm, inverse, 17–18
Negative growth rate, 79
Negative net present value, 200–201
Net present value (NPV), 198.
See also Negative net present value; Positive net present value
calculation, 199, 201
discount rate, impact, 212
decision rule, 200–201
definition, 43, 263
explanation, 198–201
financial calculator program, 44
formula, 259
function
usage, cell references (impact), 253
function, usage, 43
PI, relationship, 203
profile, 210
example, 211
representation, summation notation (usage), 199
Nominal interest rate, 68
calculation, 75076
definition, 263
EAR, equivalence, 76
effective rate, relationship, 74
Nonconstant growth, 186
Noninvestment-grade bonds (junk bonds), 168
Non-Treasury security, 169
Normal yield curve, 165
definition, 263
- O**
Obligations, bond representation, 141
Office of Federal Housing Enterprise and Oversight (OFHEO), 83
One-period return, 188
Opportunity cost, calculation, 25–26
Opportunity cost of funds, 24
application, 24
definition, 263
Ordinary annuity, 55
definition, 263
present value
determination, 56
formula, 256
relationship, usage, 107
solving, 127–129
usage, 58
valuation, 56–58
values, consideration, 59
- P**
Paper gain, 190
definition, 263
Payday loan
APR, calculation, 73
EAR calculation, 73
short-term loan, interest rate impact (example), 73
usage, example, 69
Payment (PMT)
absence, 233
frequency, setting, 233
usage, 97, 137
Periodic cash flow
representation, 55
amount, CF representation, 55
satisfaction, 130–133
Periodic interest, 142
Periodic payments, loan payoff, 95

- Periods, number
 approximation, 88
 determination, 108–109
- Perpetuity
 definition, 263
 financial math, usage, 53
 present value, formula, 256
 stock purchase, example, 54
 stock share, sale (example), 54
 valuation, 51–54
- PI. *See* Profitability index
- Positive net present value, 200–201
- Preferred share, par value, 176
- Preferred shareholders, preference, 174
- Preferred stock
 cumulative feature, 174
 dividends, 174
 equity investment, 163–164
 face value, 176
 share value, formula, 258
 valuation, 175–176
- Premiums
 convergence, 160
 discounts, relationship, 146–147
- Prepayments, 111
 definition, 263
- Present value
 annuity factor, definition, 263
 calculation, 42, 120
 advice, 28
 discounting, 28, 124
 financial calculator/
 spreadsheet, usage, 124
 involvement, 6
 calculator solutions, 27–29
 continuous compounding,
 formula, 256
 discount rate, impact, 26
 discrete compounding, value,
 256
 due, calculation, 29
 equation, 23–24
 financial calculator, usage,
 27–28
 formula, 256–257
 rewriting, 143
 function
 elements, input, 251
 usage, 27–28
 future value
 comparison, 50
 relationship, 4
 graphing, 26
 multiple cash flows, calculation,
 33
 negative number, display, 28
 negative value, obtaining, 122
 receipt, 198–199
 signing, 249
 solving, 125, 249
 spreadsheet solutions, 27–29
- Price-earnings (P/E) ratio, 186
 decrease, 186–187
- Price per share, 179e
- Principal
 example, 8e
 interest, 8e
 repayment, 4
- Principal repayment
 amount, determination, 100–103
 present value, 98, 99
- Procter & Gamble, dividends, 185e
 investor expectation, 188
- Profitability index (PI), 198,
 201–204
 calculation, 201
 definition, 264
 direct solution, absence, 202
 formula, 259
- Put option, 163
- P/Y setting, 233

Q

Quarterly compounding
APR, correspondence, 75
example, 30
growth, 15e
nominal interest rate, usage
(example), 71
Quarters, balances (calculation),
14

R

Rate per compound period, usage,
15
Rating agency, definition, 264
Real estate, purchase/sale,
203–204

Real interest rate, 164
Reinvested cash flow, usage, 162
Reinvestment

rate
assumption, 208
issues, 160–162
risk, 162
definition, 264

Rental property, purchase,
203–204

Required rate of return, 176
application, 24
calculation, 182–183
definition, 264

Retirement

account, 131
problem, saving, 132e
assumption, 136
date, withdrawal (addition), 133
needs, 136–137

Return. *See* Money-weighted
return; One-period return
calculation
comparison method, 190
example, 192

cost of capital, relationship, 207
dividends
absence, 188–189
usage, 189–190
required rate. *See* Required rate
of return

Risk investment, earnings, 227

Rule of 69, 89

definition, 264

Rule of 70, definition, 264

Rule of 72, 88–89

definition, 264

Rule of 114, 89

S

Savings

accounts
APY, 69–70
balance, example, 124–125
build-up, comparison, 130e
arrangements, yields (consumer
comparison), 70
example, 8
goal, meeting, 130
problem, investment account
(balance), 138e

Securities

interest rates, 164
U.S. Department of Treasury
issuance, 164

Semiannual interest, usage,
144–145

Series

future value, determination, 48
present value, determination, 48,
54–55

Simple interest

balance, decrease, 9
definition, 264
repayment calculation, 5
usage. *See* Consumer transactions

- Single-pay insurance policy, purchase, 46
 - Sinking fund, 163
 - Six-month yield, discount rate, 155
 - Spread, definition, 264
 - Spreadsheet financial functions, 19
 - Square root, calculation, 78
 - Standard & Poor's Corporations, 166
 - rating system, 168–169
 - Standard & Poor's 500 (S&P500) Index
 - average annual return, 82
 - returns, consideration, 81
 - Stated interest rate, definition, 264
 - Ste-up valuation, 163
 - Stock appreciation/dividends, comparison, 190
 - Stock dividends, 163
 - concern, 174
 - definition, 264
 - Stock price
 - growth, determination, 179
 - implied required rate of return, 187
 - usage, 186
 - Stock purchase, example, 189
 - Stock returns, 187–192
 - examples, 187–188
 - Stock share
 - dividends/price, 184e
 - value, 175
 - components, 184
 - Stock valuation, 186–187
 - basics, 174
 - dividend growth, 177–179
 - process, dividends (impact), 182
 - Stock value
 - estimation, valuation equation (usage), 186
 - expected future dividends, impact, 31–32
 - Straight coupon, 142
 - definition, 264
 - investment, consideration, 144
 - Straight-coupon bond, valuation, 144–146
 - Summation notation, usage, 177, 178, 199
- T**
- Ten-percent coupon, value, 159e, 160e
 - Texas Instruments BAI Plus, 231
 - clearing function, 234
 - Texas Instruments TI 83/84, usage
 - annual payment, 128
 - annuity
 - future value, 60
 - present value, 60
 - APR, 76
 - average annual return, 189
 - bond value, 146
 - cash flow, 58
 - clearing function, 234
 - cost of capital, 200
 - crossover rate, 213
 - discount rate, 155, 206
 - e* calculation, 76
 - financial applications, 238
 - i* calculation, 79, 105, 107
 - interest payments, 145
 - interest rate, specification, 43
 - IRR, 45, 85, 191, 205
 - loan payment, 109
 - monthly payments, 129
 - monthly rate, 77
 - multiple future values, 34

- ordinary annuity, 128, 131, 132
 - PI, 203
 - PMT, 97
 - present value, 47, 57, 127
 - three-payment annuity due, 123
 - TVM Solver, usage, 76, 107
 - YTM, 156
 - Three-payment annuity
 - consideration, 59
 - due
 - calculation, 123
 - present value, 59
 - Three-payment ordinary annuity,
 - calculation, 120
 - Time passage, 159–160
 - Time value of money
 - arguments, ordering, 248
 - complication, 3
 - definition, 264
 - financial calculator keys, 237
 - functions, 248–251
 - usage, 16
 - importance, 3
 - usage. *See* Annual return
 - Time-weighted return, 81
 - application, 79
 - definition, 264
 - HPR, usage, 86
 - money-weighted return, contrast, 85–87
 - usage, timing, 86
 - Trade-in vehicle, usage (absence), 106
 - True economic return, 69
 - TVM functions, 237–239
 - Twenty-year bonds, coupon rates, 161e
 - Two-stage dividend growth model, 184
 - Two-stage model, 177
 - Type* function, usage (option), 27
- U**
- Uneven cash flow stream, return (solving), 45
 - Unknown interest rate
 - calculation advice, 78
 - determination, 77–87
 - Unpaid balances, interest (calculation), 17
 - U.S. Treasury securities
 - spread/risk premium, 166
 - yield curves, 166e
- V**
- Valuation. *See* Annuities due; Bonds; Deferred annuity equation, rearrangement, 23–24
 - issues, 162–163
 - Value
 - calculation, 183
 - change rate, 79
 - characteristics, 174
 - convergence, comparison, 161e
 - difference, 149–151
 - root, calculation, 78
 - time movement, 47–48
 - translation, 5
 - Verizon Communications,
 - characteristics, 167–168
- W**
- Walt Disney Co., annual dividends, 82
 - Windfall, 130
 - lump sum, absence, 126
 - Withdrawals, 119
 - determination, 133–134
 - making, intention, 123
 - present value, 133
 - solving, 124–125

Withdrawals (*Continued*)
 solving. *See* Annual withdrawals
 basics, 135–138
 usage, absence, 7
Worksheet function (FV), usage,
 12

Y

Yield curves, 164–169
 dates, consideration, 165
 definition, 264
 factors, 165–166
 inversion, 165
Yields, 65
 change, 150–151
 coupon rate, relationship, 150
 definition, 264
 impact, 169
 IRR, relationship, 206–207
 stability, 149–151

Yield-to-maturity (YTM), 142–143
 calculation, 155–157
 inputs, 151–152
 consideration, 167
 definition, 264
 remainder, 161e

Z

Zero-coupon bond, 142
 definition, 264
 face value, example, 156–157
 interest payment, absence,
 153–154
 valuation, 152–154
 value. *See* Five-year maturity
 zero-coupon bond
 YTM, 154
 calculation, 156
Zero-coupon note, 142
Zero-coupon security, 143

<http://www.pbookstop.com>

<http://www.pbookshop.com>

<http://www.pbookshop.com>