

## Utah Core State Standards for Mathematics

Book: Clendenen, Business Mathematics, 15e ©2025 NASTA

### Mathematics of Personal Finance

Total Standards: 19

Standard	Objective	Breakout	Citations
Standard I: Students will use number sense, perform operations, solve problems and make decisions using rational and irrational numbers to set and implement financial goals.	Objective 1: Determine, represent and analyze mathematical models and formulas for various types of financial calculations.	a. Use financial formulas that require operations with real numbers.	Chapter 9: Simple Interest 9.2 Finding Principal, Rate, and Time Example 1: Finding Principal Given Interest in Days Page 368  9.2 Exercises MyLab Math: Exercises 13-18 Page 373  Chapter 10: Compound Interest and Inflation 10.1 Compound Interest Example 4: Finding Compound Interest Page 415  10.1 Exercises MyLab Math: Exercises 1-10 Page 420  10.3 Present Value and Future Value Example 2: Finding Present Value Page 439  10.3 Exercises MyLab Math: Exercises 9-14 Page 442

		b. Interpret the meaning of integers in financial situations.	Chapter 5: Bank Services 5.1: Banking, Checking Accounts, and Check Registers Example 2: Completing a Check Stub Objective 6 Complete the parts of a check register Page 195  5.1 Exercises MyLab Math: Exercises 9-11 and 19-22 Pages 197 and 198
		c. Use the irrational number $e$ to evaluate continuously compounded interest.	Appendix E: Graphing Equations Quick Check 4 Page 776
		d. Calculate net and gross income.	Chapter 15: Financial Statements and Ratios 15.1 The Income Statement Finding Gross Profit Page 695  Example 1: Finding Net Income Pages 695-696  15.1 Exercises MyLab Math: Exercises 1-3 Page 698
	Objective 2: Analyze financial plans and calculated costs of personal finance.	a. Describe the value and use of savings in financial planning.	Chapter 10: Compound Interest 10.2 Exercises MyLab Math: Exercise 11 Page 433  Chapter 16: Budgeting and Business Statistics 16.1 Planning and Budgeting Pages 733-737
		b. Explain how government regulations protect savers.	The text does not cover this concept in detail.

		c. Compare the risk, return, liquidity, and costs for savings and investments.	The text does not cover this concept.
		d. Describe the value of investing and types of investments in the financial planning process.	<p>The text does not specifically examine the value of investing.</p> <p><b>Types of investments</b>  Chapter 11: Annuities, Stocks, and Bonds  11.1 Annuities and Retirement Accounts  Pages 453-460</p> <p>11.4 Stocks, Mutual Funds, and Cryptocurrencies  Pages 482-490</p> <p>11.5 Bonds  Page 497</p> <p>Case Study: Financial Planning  Page 504</p>
		e. Explain the effects of inflation on savings and investments.	<p>Chapter 10: Compound Interest and Inflation  Objective 4 Define inflation and the consumer price index  Objective 5 Examine the effect of inflation on spendable income  Example 6: Estimating the effects of inflation  Pages 428-431</p>
		f. Analyze the relationship between risk and return.	The text does not cover this topic.
		g. Describe and select appropriate financial products for different financial goals.	The text does not cover this topic.

	Objective 3: Complete calculations associated with personal finance and financial planning using technology.	a. Calculate future value of investments and present value of investments.	Chapter 10: Compound Interest and Inflation 10.3 Present Value and Future Value Pages 437-440  10.3 Exercises MyLab Math: Exercises 1-5, 11-14 Pages 441-442
		b. Calculate stock market transaction fees, stock splits and dividend income.	The text does not cover the concept of stock market transaction fees and stock splits.  <b>Calculating dividend income</b> Chapter 11: Annuities, Stocks, and Bonds 11.4 Exercises MyLab Math, Exercises 19-24 Page 490
		c. Compute monthly payments for loans of different types.	Chapter 12: Business and Consumer Loans 12.4 Personal Property Loans Objective 4 Find monthly payments Page 542  12.4 Exercises MyLab Math, Exercises 9-14 Page 544  12.5 Real Estate Loans Objective 1 Determine monthly payments on a home Pages 547-548  12.5 Exercises MyLab Math, Exercises 1-6 Page 553  12.6 Cost of College and Student Loans Pages 555-560  12.6 Exercises MyLab Math, Exercises 1-12

			Page 563-565
		d. Determine the required time to pay off loans.	The text does not cover this concept.
		e. Compute the anticipated earnings for investments and savings plans.	Chapter 9: Simple Interest 9.1 Basics of Simple Interest Objective 2: Calculate maturity value Page 358  9.1 Exercises MyLab Math, Exercises 1-4 Page 363  Chapter 10: Compound Interest 10.1 Compound Interest Quick Check 4 Page 416  10.1 Exercises MyLab Math, Exercises 1-4 Page 420
		f. Compute average daily balances on loans and investments.	Chapter 12: Business and Consumer Loans 12.1 Open-End Credit and Charge Cards Objective 4 Use the average daily balance method Pages 513-514  12.1 Exercises MyLab Math, Exercise 17 Page 519
Standard II: Students will use graphs, charts and tables for financial	Objective 1: Summarize and interpret information from graphs, tables and charts.	a. Create and interpret scatter plots, line graphs, bar graphs, circle graphs, histograms, and	<b>The text does not include scatter plots.</b>  Chapter 16: Budgeting and Business Statistics 16.2 Frequency Distribution and Graphs

decision-making and planning.		pictographs associated with finances.	Objective 2 Prepare a bar graph Objective 3 Prepare a line graph Objective 4 Draw a circle graph Example 4 Interpreting a circle graph Pages 746-751  16.2 Exercises MyLab Math, Exercises 1-55 Pages 752-757
		b. Use regression to interpolate and extrapolate data associated with finances.	The text does not cover this concept.
		c. Use charts, tables and graphs to identify and track fixed and variable expenses and assets.	The text does not cover this concept.
		d. Use spreadsheets to evaluate data.	The text does not cover this concept.
		e. Interpret stock market data charts.	Chapter 11: Annuities, Stocks, and Bonds 11.4 Stocks, Mutual Funds, and Cryptocurrencies Objective 2 Read stock tables Pages 483-484  11.4 Exercises MyLab Math, Exercises 1-18 Page 489
	Objective 2: Solve problems using graphical representations	a. Represent the value of an employee benefit package graphically.	The text does not cover this concept.
		b. Compare different employee benefit packages in the same job.	The text does not cover this concept.
		c. Compare different employee benefit packages in different jobs.	The text does not cover this concept.
		d. Analyze graphs displaying various interest rates on returns of investment.	Chapter 10: Compound Interest 10.1 Compound Interest Example 6: Finding Compound Interest

			Page 418
		e. Graph the costs of various aspects of renting a home vs. purchasing a home.	The text does not cover this concept.
		f. Graph the growth of different long term investments and income earnings.	Chapter 10: Compound Interest 10.1 Compound Interest Page 412  Example 6: Finding Compound Interest Page 418  Appendix E: Graphing Equations Example 5 Graphing an Equation that Uses the Number e Page 776
		g. Graph linear and exponential functions associated with finance.	Appendix E: Graphing Equations Objective 3 Graph linear equations Example 3 Constructing a Graph Objective 4 Graph nonlinear equations Example 4 Graphing an Equation that Involves Exponents Page 776
Standard III: Students will use algebra associated with personal finances.	Objective 1: Analyze monthly, annual, and life-long financial plans.	a. Compare time and costs required to pay off a loan compared to saving for a purchase.	The text does not cover this concept.
		b. Compute monthly net and gross earnings based on various earning possibilities.	The text does not cover this concept.

		c. Compute annual net and gross earnings based on various earning possibilities.	The text does not cover this concept.
		d. Calculate present and future investment values.	Chapter 10: Compound Interest and Inflation 10.3 Present Value and Future Value Page 437-440  10.3 Exercises MyLab Math: Exercises 9-14 Page 442
		e. Use algebraic functions to calculate average daily balances on loans and investments.	Chapter 12: Business and Consumer Loans 12.1 Open-End Credit and Charge Cards Objective 4 Use the average daily balance method Pages 513-514  12.1 Exercises MyLab Math, Exercise 17 Page 519
	Objective 2: Work with functions associated with finance and financial planning.	a. Interpret the rate of change of functions associated with financial planning.	Chapter 10: Compound Interest 10.2 Exercises MyLab Math: 25, 26 Page 435  Chapter 14: Depreciation 14.1 Straight-Line Method Example 1: Finding First-Year Depreciation and Book Value Quick Check 1 Page 646-647
		b. Represent financial scenarios with linear and non-linear functions.	The text does not cover this concept.

		c. Use functions to make predictions for future financial values.	Chapter 10: Compound Interest and Inflation 10.3 Present Value and Future Value Page 437-440  10.3 Exercises MyLab Math: Exercises 9-14 Page 442
		d. Distinguish between financial contexts that result in linear and non-linear functions.	Appendix E: Graphing Equations Objective 3 Graph linear equations Example 3 Constructing a Graph Objective 4 Graph nonlinear equations Example 4 Graphing an Equation that Involves Exponents Page 776
	Objective 3: Determine, represent and analyze relationships for various types of growth and decay models.	a. Compute depreciation problems that involve exponential decay.	The text does not cover this concept.
		b. Compute inflation problems that involve exponential growth.	The text does not cover this concept.
		c. Identify growth and decay situations from real world problems.	The text does not cover this concept.
		d. Calculate purchasing power.	Chapter 10: Compound Interest and Inflation Objective 4 Define inflation and the consumer price index Objective 5 Examine the effect of inflation on spendable income Example 6: Estimating the effects of inflation Pages 428-431

Standard IV: Students will use rational decision making for financial planning.	Objective 1: Create, represent and justify personal monthly and yearly budgets.	a. Create spreadsheets, tables, or charts that represent personal income and expenses.	Chapter 16: Budgeting and Business Statistics 16.1 Budgeting and Planning Quick Check 1 Page 737
		b. Design a plan to reach a specific financial goal.	Chapter 11: Annuities, Stocks, and Bonds Supplementary Application Exercises on Annuities and Sinking Funds: 13 Page 481  Chapter 16: Budgeting and Business Statistics 16.1 Budgeting and Planning Example 2: Estimating Other Expenses Page 737
		c. List advantages of designing and following a personal financial plan.	Chapter 16: Budgeting and Business Statistics 16.1 Exercises MyLab Math: Exercise 8 Page 742
		d. Analyze the role of cultural, social, and emotional influences on financial behavior.	The text does not cover this concept.
	Objective 2: Relate financial decisions to personal and societal consequences.	a. Recognize that individuals are responsible for their finances.	Chapter 12: Business and Consumer Loans 12.5 Real Estate Loans Objective 5 Understand your credit score Pages 551-552
		b. Describe the social and economic consequences of bankruptcy.	The text does not cover this concept.
		c. Describe the consequences of excessive debt including increased consumer costs, inflation, and family instability.	Chapter 16: Budgeting and Business Statistics 16.1 Planning and Budgeting Pages 733-737
		d. Evaluate the role of emotions when making financial decisions.	The text does not cover this concept.

	Objective 3: Research annual earnings for various employment opportunities in the job market to make mathematical decisions for personal income.	a. Create budgets for various earning opportunities including fluctuations in income.	Chapter 16: Budgeting and Business Statistics 16.1 Exercises MyLab Math: Exercise 5 Page 742
		b. Follow and explain the earnings or losses associated with a given investment in the market.	The text does not cover this concept.
		c. Collect, organize and interpret data associated with utilities, cash flow, housing, food, entertainment, medical, and transportation expenses.	Chapter 16: Budgeting and Business Statistics 16.1 Planning and Budgeting Quick Check 1 Page 737  16.1 Exercises MyLab Math: Exercise 9 Page 744
		d. Compare various vehicles for attaining short-term and long-term financial goals.	Chapter 11: Annuities, Stocks, and Bonds Case Study: Financial Planning Page 504
Standard V: Students will understand and explain the relationship between income sources and career preparation.	Objective 1: Identify various forms of income and analyze factors that affect income.	a. Identify sources of income.	The text does not cover this concept.
		b. Compare common employee benefits.	The text does not cover this concept.
		c. Compare income to the cost-of-living in various geographical areas.	The text does not cover this concept.
		d. Analyze how economic conditions affect income.	Chapter 10: Compound Interest and Inflation

			<p>Objective 4 Define inflation and the consumer price index</p> <p>Objective 5 Examine the effect of inflation on spendable income</p> <p>Example 6: Estimating the effects of inflation Pages 428-431</p>
	Objective 2: Identify and understand required income withholdings.	a. List the reasons for taxation and uses of tax revenues.	<p>Chapter 13: Taxes and Insurance Pages 582-583</p> <p>13.1 Property Tax Property Taxes Pay for the Following Page 583</p> <p>13.2 Personal Income Tax Pages 591-592</p>
		b. Describe the purposes of Social Security and Medicare.	<p>Chapter 6: Payroll 6.3 Social Security, Medicare, and Other Taxes Objective 1 Understand FICA Objective 2 Find FICA Tax and Medicare Tax Pages 244-246</p>
		c. Identify wages and withholding on an employee payment record.	<p>This objective is partially covered. The content explains how to calculate wages and withholdings, but does not demonstrate how to identify these on an employee payment record.</p> <p>Chapter 6: Payroll 6.1 Gross Earnings: Wages and Salaries Pages 224-230</p> <p>6.4 Income Tax Withholding Pages 250-255</p>

		d. Demonstrate how to complete personal state and federal income tax forms.	<p>Chapter 6: Payroll 6.4 Income Tax Withholding Objective 1 Understand the Employee's Withholding Allowance Certificate Page 250</p> <p>Chapter 13: Taxes and Insurance 13.2 Personal Income Tax Objective 7 Prepare a 1040 tax form along with Schedule B Pages 591-602</p>
	Objective 3: Analyze criteria for selecting a career and the impact of career choices on income and financial stability.	a. Describe the correlation between income and a worker's skills, education, the value of the work to society, condition of the economy, and the supply and demand for workers.	<p>Chapter 6: Payroll 6.1 Gross Earnings: Wages and Salaries Figure: Numbers in the News – Level of Education Affects Average Earnings and Unemployment Rate (2022) Page 229</p> <p>6.2 Gross Earnings: Piecework and Commissions Figure: Numbers in the News – Average Salaries for Sales Persons Page 238</p> <p>Figure: Numbers in the News – Median Weekly Wages (2022) Page 241</p>
		b. Develop career plans that include educational requirements, skill development, and income potential.	The text does not cover this concept.
		c. Analyze the costs and benefits of obtaining additional education	The text does not cover this concept.

		or developing new skills for the workplace.	
		d. Identify the risks and rewards of entrepreneurship/self-employment.	The text does not cover this concept.
Standard VI: Students will use principles of money management.	Objective 1: Describe the role of planning and maintaining a balanced budget.	a. Develop, monitor, and evaluate a personal budget.	Chapter 16: Budgeting and Business Statistics 16.1 Planning and Budgeting Pages 733-740
		b. Discuss opportunity costs and trade-offs on budget implementation.	Chapter 16: Budgeting and Business Statistics 16.1 Planning and Budgeting Objective 3 Controlling your financial future using planning and budgeting Pages 737-739  16.1 Exercises Question 8 Page 743
		c. Identify and discuss the social and personal consequences of not following a budget.	The text does not cover this concept.
		d. Compare and evaluate various tools available for keeping track of budgets.	The text does not cover this concept.
		e. Demonstrate knowledge of financial transactions, checking and savings accounts associated financial services.	Chapter 5: Banking Services 5.1 Banking, Checking Accounts, and Check Registers Pages 190-195  5.2 Checking Services and Credit-Card Transactions Pages 200-203
		f. Demonstrate how to manage a checking account.	Chapter 5: Banking Services 5.1 Banking, Checking Accounts, and Check Registers Objective 2 Understand checking accounts and checks Objective 3 Calculate the monthly service charge

			Pages 191-193
		g. Evaluate the impact of major purchases on budgeting.	Chapter 16: Budgeting and Business Statistics 16.1 Planning and Budgeting Pages 733-735
	Objective 2: Understand credit uses and costs.	a. Discuss the history and role of credit.	The text does not cover this concept.
		b. List basic types of credit.	Chapter 12: Business and Consumer Loans 12.1 Open-End Credit and Charge Cards Pages 510-516  12.2 Installment Loans Pages 521-525  12.4 Personal Property Loans Pages 539-543  12.5 Real Estate Loans Pages 547-552
		c. Describe the risks and responsibilities associated with using credit.	Chapter 5: Bank Services 5.1 Banking, Checking Accounts, and Check Registers Objective 1 Understand banks and recent trends Page 191  Chapter 12: Business and Consumer Loans 12.1 Open-End Credit and Charge Cards Page 510  Gaining Control of Your Finances Page 515  12.6 Cost of College and Student Loans

			Objective 3 Demonstrate issues related to student debt Objective 4 Remedies for student debt Pages 558-562
		d. Identify methods of establishing and maintaining a good credit rating.	Chapter 12: Business and Consumer Loans 12.5 Real Estate Loans Objective 5 Understand your credit score Pages 551-552
		e. Explain the purpose of co-signers and collateral when applying for a loan.	Chapter 9: Simple Interest 9.1 Basics of Simple Interest Objective 6 Define the basic terms used with notes Page 362
		f. Identify warning signs of credit abuse and ways to correct credit problems.	Chapter 12: Business and Consumer Loans 12.1 Open-End Credit and Charge Cards Gaining Control of Your Finances Page 515  12.6 Cost of College and Student Loans Objective 3 Demonstrate issues related to student debt Objective 4 Remedies for student debt Pages 558-562
		g. Calculate and compare costs associated with the use of credit.	Chapter 5: Bank Services Objective 3 Understand credit-card, debit-card, and mobile payment fees Pages 200-203
		h. Calculate how long it takes to repay debt and the total costs when a borrower makes minimum payments.	Chapter 12: Business and Consumer Loans 12.5 Real Estate Loans Pages 547-548

	Objective 3: Describe the impact of credit on money management.	a. Compare the advantages and disadvantages of different payment methods.	Chapter 5: Bank Services Objective 3 Understand credit-card, debit-card, and mobile payment fees Pages 200-203
		b. Compare the services of various types of financial institutions and identify advantages of comparison shopping before selecting financial services.	The text does not cover this concept.
		c. Describe the relationship between a credit rating and the cost of credit and factors that affect credit worthiness.	Chapter 12: Business and Consumer Loans 12.5 Real Estate Loans Objective 5 Understand your credit score Pages 551-552
		d. Explain the value of credit reports and scores to borrowers and lenders.	Chapter 12: Business and Consumer Loans 12.5 Real Estate Loans Objective 5 Understand your credit score Pages 551-552
	Objective 4: Describe the rights and responsibilities of buyers and sellers under consumer protection laws.	a. Explain the purposes and features of consumer protection laws, agencies and sources of assistances.	The text does not cover this concept.
		b. Describe ways to avoid identity theft and fraud.	Chapter 5: Banking Services 5.1 Banking, Checking Accounts, and Check Registers Pages 190-195
		c. Explain the importance of understanding financial contracts.	The text does not cover this concept.
		d. List possible actions a consumer can take in response to excessive debt and collection practices.	The text does not cover this concept.

		e. Describe ways to avoid financial scams and schemes designed to defraud consumers.	The text does not cover this concept.
	Objective 5: Discuss the purposes for insurance and risk management.	a. Identify common types of insurance and their terminology.	Chapter 13: Taxes and Insurance 13.3 Fire Insurance Pages 607-608  Objective 5 List additional types of insurance coverage Page 613
		b. Describe how insurance and other risk-management strategies protect against financial loss.	The text does not cover this concept.
		c. Discuss insurance needs at various life stages.	This objective is partially covered. The text covers the need for life insurance and the various types of life insurance policies, but it does not discuss insurance needs at different life stages.  Chapter 13: Taxes and Insurance 13.5 Life Insurance Pages 627-630
		d. Identify the importance of estate planning.	The text does not cover this concept.
		e. Discuss the consequences of being under-insured.	This objective is partially covered. The text briefly mentions what underinsured is but does not cover the consequences of being under-insured.  Chapter 13: Taxes and Insurance 13.3 Fire Insurance Objective 3 Use the coinsurance formula Page 609

			13.4 Motor Vehicle Insurance Objective 5 Define no-fault and uninsured motorist insurance Page 621
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