



2024-2025

Rapid City
Stevens High School

Financial Algebra

RCAS Policies/Procedures:

Students will be required to follow all RCAS policies and procedures. To view the RCAS High School Student Handbook, click [handbook](#).

Course Description:

Financial Algebra is a mathematical modeling course that is algebra-based and technology-dependent. The course covers math concepts using eight financial umbrellas: Discretionary Expenses, Banking, Investing, Credit, Employment and Income Taxes, Automobile Ownership, Independent Living, Retirement Planning and Household Budgeting. The course allows students to experience the interrelatedness of mathematical topics from known situations to unknown situations.

Textbook:

Financial Algebra: Advanced Algebra with Financial Applications Tax Code Update

Required Resources:

Practice workbook that goes with textbook

“Limited Choice” Resources: (students will be asked to choose at least one title from this list)

Desmos

Student Choice:

Will student be asked to choose additional reading material from the classroom or school library?

No

Essential Questions:

Chapter 1 - How can I use center and spread to head analyze my expenses?

Chapter 2 - How can I use the compound interest formula to help understand the interest growing in my accounts?

Chapter 3 - How can I figure out my monthly payment for a loan or credit card?

Chapter 4 - How can I use linear regression and exponential regression to find the value of a car?

Chapter 5 - How can I figure out my pay and what deductions are taken out?

Chapter 6 - How can I figure out how much taxes need to be paid?

Chapter 7 - How can find the most affordable apartment I can afford based on my income and other factors?

Chapter 8 - How can I read stock market charts to make informed decisions on investing?

Chapter 11 - How can I budget so I live within my means?

Chapter 9 - Optional

Chapter 10 - Optional

Essential Learning Intentions:

Chapter 1 – Discretionary Expenses

- Understand how to use mean, median and mode for expenses.
- Determine and interpret a given data set.
- Use scatter plots to make predictions based on trends of data.

2. Chapter 2 – Banking Services

- Explain how checking accounts work.
- Reconcile a bank statement and a check register.
- Make savings account calculations
- Understand the concept of the compound interest
- Make computations using the compound interest formula.

Chapter 3 – Consumer Credit

- Compute finance charges for installment purchases.
- Compute monthly payments and interest on loans.
- Calculate interest on student loans.
- Compute monthly finance charges on credit cards.
- Understand how monthly payments affect the principal, the interest, and the new balance on credit cards.

4. Chapter 4 – Automobile Ownerships

- Compute the overall cost of an automobile purchase.
- Understand how statistics can represent a set of data and help make decisions.
- Understand the importance of having auto insurance.
- Understand the factors that determine auto insurance costs.
- Understand the short- and long-term costs of automobile ownership.
- Use a linear/exponential system to model automobile expense and depreciation.
- Use formulas to determine relationships between speed, distance, fuel economy, and gas usage.
- Determine the total stopping distance for an automotive vehicle.
- Understand how data is used in accident investigation.

Chapter 5 – Employment Basics

- Compute periodic salary based on annual contract salary.
- Model payment procedures algebraically.
- Compute pay based on production.
- Explain and calculate the value of certain employee benefits.
- Compute mandatory paycheck deductions.

6. Chapter 6 – Income taxes

- Compute federal income taxes.
- Determine net pay given gross pay.
- Use appropriate forms to compute tax liability.
- Understand how to reduce tax liability.

7. Chapter 7 – Independent Living

- Calculate the costs associated with renting suitable housing.
- Read a floor plan and calculate the amount of living space.
- Compute monthly mortgage payment, including principal, interest, property taxes, and insurance.
- Estimate closing costs associated with purchasing a home.
- Create and interpret amortization tables.
- Explain the advantages and disadvantages of purchasing different types of homes

Chapter 11 – Prepare a Budget

- Compute the cost associated with utility usage.
- Compute the cost associated with electronic utilities.
- Visualize and interpret a budget.
- Develop and interpret a expense budget plan.
- Use matrices to represent budget data.

9. Chapter 8 – Stock Market

- Calculate costs associated with owning a business.
- Use stock data to follow the daily progress of a corporate stock
- Create and interpret stock market data charts.
- Calculate and graph simple moving averages to identify trends in stock prices.
- Interpret stock market ticker information.
- Compute gains and losses from stock trades
- Compute the fees involved in buying and selling stocks
- Compute income from long term investments.

10. Chapter 9 – Modeling a Business

- Describe the slopes of the supply and demand curves.
- Use fixed and variable expenses to determine the cost of manufacturing a product.

- Use expense and revenue functions to determine profit.
- Determine the breakeven prices and amounts using technology and/or algebra.
- Determine the maximum profit and the price at which that maximum is attained.
- Mathematically model a business situation using relationships between and among variables.

11. Chapter 10 – Retirement

- Determine costs associated with retirement savings accounts.
- Make calculations associated with Social Security.
- Determine the monthly pension benefits.
- Calculate insurance premium costs.
- Compare investment plans.