Financial Equations

MODULE 14: LESSON GUIDE

This module builds upon Module 13's Financial Algebra to help students understand graphing functions including linear equations, piecewise functions, linear inequalities, and exponential curves. We dive into solving algebraic equations and functions in order to better approach an assortment of real-world financial problems. Topics covered in this module include coordinate planes, graphing linear functions, representing and solving functions in slope-intercept form, and differentiating continuous and discontinuous functions. Students will learn an array of skills to help solve linear equations and inequalities, while also learning the basics of net present value, future value, and the time value of money.

Time Required: 3 Hours

SUPPLIES:

Notebooks
Graph Paper
Projector
Activity Sheets

ACTIVITIES & ARTICLES

ACTIVITIES

- Calculating FICA Taxes
- Graphing Functions To Analyze A Paycheck
- Graphing Linear Equations
- Income & Payroll Functions
- Linear Equations In Practice
- Piecewise Functions
- Understanding Linear Equations
- Writing Financial Functions

ARTICLES

No Linked Articles

GUIDING QUESTIONS

- What is the Cartesian plane and how can it help us model equations and functions?
- How can functions be used to determine important financial lines?
- Is there a standardized format for linear equations, and how can these be generalized to real-world problems?
- What are key ways to use and solve linear equations?
- What are piecewise functions and how do they relate to the real world like taxes?
- What is the time value of money and how does it relate to future value?

ENDURING UNDERSTANDINGS

- Understanding financial equations can help make informed decisions about finances, budgeting, saving, and investing.
- Linear equations can be used to model financial situations where the relationship between two variables is proportional, such as income and expenses.
- Piecewise functions model financial situations where the relationship between two variables changes at certain points, such as tax brackets or interest rates.
- Compound growth can model financial situations where the value of an investment or loan changes over time exponentially

STANDARDS ALIGNMENT

Earned Income: 8.5a-c

Saving: 8.3a-b, 8.5a-b, 12.1a-b

Investing: 8.7a-d