SECONDARY MATHEMATICS 1

Solve Algebraic Equations (linear and exponential)

- Interpret the structure of linear and exponential expressions
- Create equations and inequalities in one, two or more variables and use them to solve problems
- Solve equations and inequalities in one or two variables and systems of linear equations exactly and approximately (numerically, algebraically and graphically) with pairs of linear equations in two variables

Understand, Compare, and Represent Functions (linear and exponential)

- Use function notation to represent linear and exponential functions, including arithmetic and geometric sequences
- Understand, compare, and represent linear and exponential functions
- Calculate and interpret the average rate of change of a function
- Interpret and compare different representations of functions
- Represent and solve equations and inequalities graphically
- Distinguish between situations modeled with linear functions and with exponential functions

Describe Characteristics of Functions (linear and exponential)

- Describe characteristics of a linear or exponential function
- Interpret key features of graphs that model a relationship between two quantities
- Compare (on a graph or a table) the relationship between linear and exponential functions
- Interpret the parameters of such functions in terms of context

Represent and Analyze Relationships

- Build on prior knowledge properties of rigid motions extending to congruence in coordinate geometry
- Use the property of correspondence to determine congruency
- Represent and compare transformations in the plane
- Prove simple geometric theorems algebraically

Mathematical Modeling

- Produce, interpret, and use expressions, equations and functions to model real-world phenomena
- Graph and analyze functions
- Relate characteristics of functions to graphical key features and quantitative relationships
- Apply geometric concepts in modeling situations

Mathematical Practices

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning