

Foundations of Mathematics and Pre-Calculus 10

Textbook: Foundations and Pre-Calculus Mathematics 10 – Pearson

A scientific calculator is required for this course.

	Progress
Chapter 2: TRIGONOMETRY a) Tangent, Sine, and Cosine b) Applications of Trigonometric Ratios	
Chapter 1: MEASUREMENT a) Systems of Measurements b) Relating SI and Imperial Units	
Chapter 3: FACTORS AND PRODUCTS a) Factors and Multiples b) Perfect Squares, Perfect Cubes and their Roots c) Multiplying and Factoring Polynomials	
Chapter 4: EXPONENTS a) Negative Exponents and Reciprocals b) Simplifying Algebraic Expressions using Exponent Laws	
Chapter 5: RELATIONS AND FUNCTIONS a) Representing Relations and Properties of Functions b) Interpreting and Sketching Graphs of Relations and Functions	
Chapter 6: LINEAR RELATIONS a) Slope of a Line b) Slopes of Parallel and Perpendicular Lines c) Slope-Intercept, Slope-Point and General Form of a Line	
Chapter 7: SYSTEMS OF LINEAR EQUATIONS a) Developing a System of Linear Equations b) Solving a System of Linear Equations by Graphing, Substitution and Elimination	
SEQUENCES AND SERIES a) Arithmetic Sequences b) Arithmetic Series	
FINANCIAL LITERACY a) Types of Income b) Income Tax and other Deductions	

Evaluation:

Standards-based grading will be used to measure the mastery of the Foundations of Mathematics and Pre-Calculus 10 curriculum.



Area of Learning: MATHEMATICS — Foundations of Mathematics and Pre-calculus

Grade 10

BIG IDEAS

Algebra allows us to generalize relationships through abstract thinking.	The meanings of, and connections between, each operation extend to powers and polynomials.	Constant rate of change is an essential attribute of linear relations and has meaning in different representations and contexts.	Trigonometry involves using proportional reasoning to solve indirect measurement problems.	Representing and analyzing situations allows us to notice and wonder about relationships.
---	---	---	--	--

Learning Standards

Curricular Competencies

Students are expected to do the following:

Reasoning and modelling

- Develop **thinking strategies** to solve puzzles and play games
- Explore, **analyze**, and apply mathematical ideas using **reason**, **technology**, and **other tools**
- **Estimate reasonably** and demonstrate **fluent, flexible, and strategic thinking** about number
- **Model** with mathematics in **situational contexts**
- **Think creatively** and with **curiosity and wonder** when exploring problems

Understanding and solving

- Develop, demonstrate, and apply mathematical understanding through play, story, **inquiry**, and problem solving
- **Visualize** to explore and illustrate mathematical concepts and relationships
- Apply **flexible and strategic approaches to solve problems**
- Solve problems with **persistence and a positive disposition**
- Engage in problem-solving experiences **connected** with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

Communicating and representing

- **Explain and justify** mathematical ideas and **decisions** in **many ways**
- **Represent** mathematical ideas in concrete, pictorial, and symbolic forms
- Use mathematical vocabulary and language to contribute to **discussions** in the classroom
- Take risks when offering ideas in classroom **discourse**

Connecting and reflecting

- **Reflect** on mathematical thinking
- **Connect mathematical concepts** with each other, other areas, and personal interests
- Use **mistakes** as **opportunities to advance learning**
- **Incorporate** First Peoples worldviews, perspectives, **knowledge**, and **practices** to make connections with mathematical concepts