PRE-CALCULUS 11 (ONLINE)

INSTRUCTOR: Marg Koetsier
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SCHEDULE: Monday/Wednesday/Friday   10:00am–2:00pm
    Tuesday/Thursday   4:00pm–9:00pm
LEARNING CENTRE HOURS: Monday–Friday   10:00am–2:00pm
    Monday–Thursday   4:00pm–9:00pm
    The Learning Centre is closed all statutory and school holidays.

INTRODUCTION

Pre-Calculus 11 is designed to prepare students for Pre-Calculus 12 and for post-secondary programs that involve math and science. The following **big ideas** are emphasized:

- *Algebra allows us to generalize relationships through abstract thinking.*
- *The meanings of, and connections between, operations extend to powers, radicals, and polynomials.*
- *Quadratic relationships are prevalent in the world around us.*
- *Trigonometry involves using proportional reasoning to solve indirect measurement problems.*

CURRICULAR COMPETENCIES   *Students are expected **to do** the following:*

Reasoning and Modelling

- *develop thinking strategies to solve puzzles and 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 conceptual understanding of mathematical ideas 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*
- *take risks when offering ideas in classroom discourse*

Connecting and Reflecting

- *reflect on mathematical thinking*
- *connect mathematical concepts with each other, with other areas, and with personal interests*
- *use mistakes as opportunities to advance learning*
- *incorporate First Peoples worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts*

CONTENT   *Students are expected **to know** the following:*
- *real number system*
- *powers with rational exponents*
- *radical operations and equations*
- *polynomial factoring*
- *rational expressions and equations*
- *quadratic functions and equations*
- *linear and quadratic inequalities*
- *trigonometry (non-right triangles and angles in standard position)*
- *financial literacy (compound interest, investments, loans)*

LEARNING RESOURCES
The self-paced online Pre-Calculus 11 course does not require a textbook. All lessons and practice materials are provided online. Access information will be provided following registration.

PRE-CALCULUS 11 at Coquitlam Learning Opportunity Centre
Pre-Calculus 11 at CLOC is a self-paced, self-directed course. You will be expected to work independently and to manage your time productively. If needed, individual help is available online and face-to-face at CLOC. An important element for success in Pre-Calculus 11 will be your study skills. Successful students establish a study schedule and stick to it.

EVALUATION
Evaluation in Pre-Calculus 11 includes unit tests, a midterm test, and a final exam. All tests include both multiple-choice and written-response questions. To encourage mastery of course content, **one** rewrite will be available for each unit test. There are **no** rewrites for the midterm test or the final exam. The tests will be weighted as follows:

TEST	CONTENT	PERCENT
Unit 1	Powers and Radicals	8
Unit 2	Factoring Polynomials	4
Unit 3	Rational Expressions	8
Unit 4	Quadratic Functions	8
Midterm	Units 1–4	15
Unit 5	Solving Quadratics	8
Unit 6	Inequalities	8
Unit 7	Trigonometry	8
Unit 8	Financial Literacy	8
Final Exam	Units 1–8	25
		100