

PRE-CALCULUS 11

Bonar Law Memorial School

2021–2022

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TEXTS and RESOURCES

- Pre-Calculus 11 and Student Workbook (McGraw–Hill Ryerson 2011)
- Mathematical Modeling Book 2 (Nelson 2004) and Book 3 (Nelson 2002)
- Mathematics: Principles and Process 11 (Nelson 1994)
- Pens, pencils, erasers, binder, loose leaf, scientific calculator and graph paper.

SYLLABUS

Unit 1 – Algebra and Number (AN): Develop Algebraic Reasoning and Number Sense. (six weeks)

AN1 – Demonstrate an understanding of the absolute value of real numbers.

AN2 – Solve problems that involve operations on radicals and radical expressions with numerical and variable radicands.

AN3 – Solve problems that involve radical equations.

AN4 – Determine equivalent forms of rational expressions.

AN5 – Perform operations on rational expressions.

AN6 – Solve problems that involve rational equations.

Unit 2 – Trigonometry (T): Develop Trigonometric Reasoning. (two weeks)

T1 – Demonstrate an understanding of angles in standard position $[0^\circ$ to $360^\circ]$.

T2 – Solve problems, using the three primary trigonometric ratios for angles from 0° to 360° in standard position.

Unit 3 – Relations and Functions (RF): Develop algebraic and graphical reasoning through the study of relations. (seven weeks)

RF1 – Factor polynomial expressions of the form:

$$ax^2 + bx + c, a \neq 0$$

$$a^2x^2 - b^2y^2, a \neq 0, b \neq 0$$

$$a(f(x))^2 + b(f(x)) + c, a \neq 0$$

$$a^2(f(x))^2 - b^2(g(y))^2, a \neq 0, b \neq 0$$

(where a , b and c are rational numbers)

RF2 – Graph and analyze absolute value functions (limited to linear and quadratic functions) to solve problems.

RF3 – Analyze quadratic functions in the form $y = a(x - p)^2 + k$ and determine the vertex, domain and range, direction of opening, axis of symmetry, x- and y-intercepts.

RF4 – Analyze quadratic functions in the form $y = ax^2 + bx + c$ to identify characteristics of the corresponding graph, including: vertex, domain and range, direction of opening, axis of symmetry, x- and y-intercepts; and to solve problems.

RF5 – Solve problems that involve quadratic equations.

RF6 – Solve, algebraically and graphically, problems that involve systems of linear–quadratic and quadratic–quadratic equations in two variables.

RF7 – Solve problems that involve linear and quadratic inequalities in two variables.

RF8 – Solve problems that involve quadratic inequalities in one variable.

EVALUATION

Your **final grade** will be based on the following scheme:

- Semester Mark 70%
- Final Exam (June 2022) 30%

Semester Mark will be calculated based on the following scheme:

- Tests and Quizzes 85% (translates to 59.5% of final grade)
(1 quiz every 1–2 weeks and 1 test every 2–3 weeks)
- In-Class Assignments 10% (translates to 7% of final grade)
(1 assignment every 2–3 weeks)
- Homework 5% (translates to 3.5% of final grade)

Students must obtain a minimum mark of 60% to receive credit for this course.

Please note: According to the BLMS Exam Incentive, if you have earned a Semester mark $> 85\%$ in Pre-Calculus 11, the final grade may also be computed by weighting the exam to be 15%, 30%, or 50%, and whichever scheme works in the student's favour will be recorded as the final grade.

Absenteeism and Marks

A legitimate written excuse from a parent or guardian for illness or medical appointments will be required to circumvent the penalization of marks due to the lateness of an assignment or a test. See BLMS Assignment Tardiness Policy.

EXPECTATIONS

- You are expected to be in class on time each day with all your materials.
(these include: pen, pencil, paper, worksheets and scientific calculator)
- You are expected to treat others with respect and dignity. You are expected to contribute to a positive learning environment.
- You are expected to work the entire period to the best of your ability.
- This course will include in-class assignments (open book) that will be completed individually only during class time. Homework will also be assigned on a regular basis and students will be expected to have it completed at the beginning of each class. **THIS WILL BE VERIFIED ON RANDOM DAYS!**
- When you miss a class it is **your** responsibility to get caught up on your own time. This means you may have to call a classmate at home to receive the work missed or you may have to make arrangements to stay for extra help.
- If you miss a test or an in-class assignment you must write it when you return to school at a time arranged by the teacher.
- **ALL WORK** must be handed in and **ALL TESTS** must be written.
- If at **any** time a student is having difficulty, **extra help** is available upon request. Students are **always** welcome for extra help. I am available at the beginning of lunch hour on Wednesdays and Fridays.

~ If All You Do Is Watch Someone Else Do Mathematics, All You Will Become Good At Is Watching Someone Else Do Mathematics. ~



.....Old Math Proverb