



Secondary 2 Honours Mathematics (2019-2020)

Teacher:	Email:	Phone:
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Textbook: Handouts will serve as both the textbook and workbook for this course.
Online resources (homework and explanations): IXL, Math Help Services (MHS)
Subscriptions to IXL and MHS are provided. Students must use their **Loyola** accounts.

Website: Class notes and relevant links will be available on <http://moodle.loyola.ca>
Students must also subscribe to the class Google Classroom feed using their Loyola e-mail account.

Supplies: Pencils, eraser, compass, ruler, protractor
Duo-tangs, in which students should keep handouts, returned quizzes and tests, with:
- loose-leaf sheets (10 pages to start),
- graph paper (10 pages to start)

Calculators **will not be permitted** during some units but **will be required** in other units, and students are responsible for purchasing a TI-30X calculator from the school store. (iPads may not be used as calculators in class.)

Competencies and Evaluation (This is a guideline; final weightings may vary):

Communication & Reasoning (Reasoning Tests, Quizzes, Homework): 70%;
Situational problems: 30%.

In Term 2, a Cumulative Reasoning Test given prior to the Christmas break.

In Term 3, June exams count for 50% of the term mark and cover the entire year's work.

The final course mark is calculated as: Term 1 – 20% Term 2 – 20% Term 3 – 60%.

Homework: Homework is usually assigned daily. It will be checked regularly and graded occasionally. Review and practice are essential to understanding and retaining the information taught. Failure to complete homework on time will result in a loss of grades and/or disciplinary action.

Quizzes: Quizzes may be given **without prior warning** to evaluate day-to-day understanding and to verify homework comprehension.

Tests: Tests will evaluate the course content and competencies and there will usually be 3-5 tests per term. A major consideration in this course is the students' ability to solve **Situational Problems**.

Tutorials: The math department offers extra help on a regular schedule. A math teacher is always available after school to provide extra help in room 251. In addition, Mr. Parr offers extra help sessions on a regular basis. Be sure to get help right away when difficulty arises.

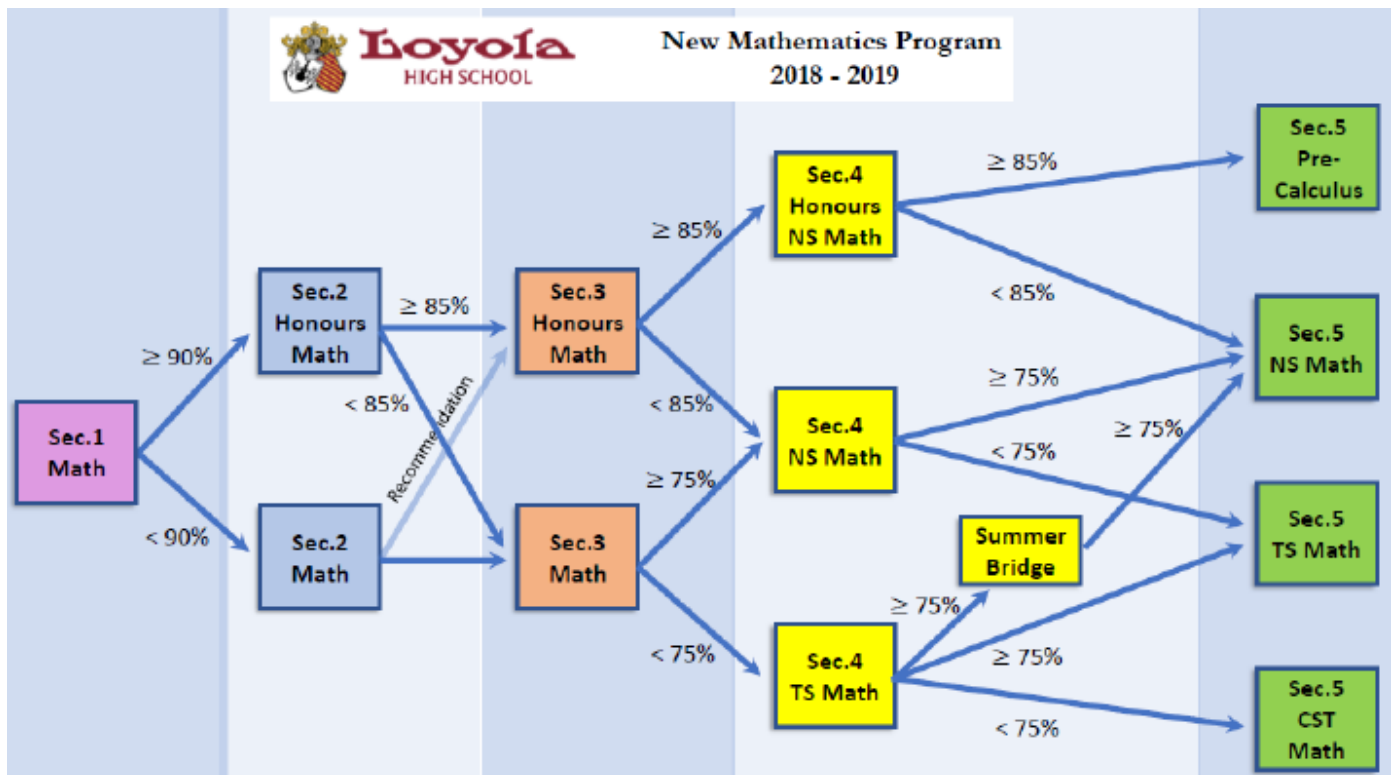
Office Hours: Mr. Parr’s office hours will be announced via Google Classroom. Office hours will take place in room 135 unless otherwise indicated.

Mobile Device Policy: Students are expected to come to class with a sufficiently charged and functioning iPad. Assignments, quizzes and activities frequently require that iPads be used. However, iPads must remain stowed in backpacks with notifications muted unless and until the teacher permits them to be used in the classroom. Students wishing to use their own laptop computers in lieu of iPads may do so with the permission of the teacher; however, this permission is subject to being revoked.

General: Students are expected to further develop their work ethic, study habits and time management skills as they continue their progress to becoming independent and active learners.

Do not lose this IMPORTANT document. It can serve as a basis for your study guide for the entire year.

Advancement: Secondary 2 Honours Math is an advanced Math course preparing students to continue into Secondary 3 Honours Math where students will be learning concepts at the Secondary 4 level. As such, a final minimum course grade of 85% is required to pursue Honours Math in Sec. 3; otherwise students will be placed into a regular Secondary 3 Math class next year. Students are expected to further develop their work ethic, study habits and time management skills as they continue their progress in becoming independent and active learners.



Units Covered (additional material may be covered)

Algebraic Calculations

Definitions: Constant, variable, coefficient, like terms
Operations with variables (+, −, ×, ÷)
Multiplying monomials/Distributive property
Properties of exponents and radicals
Simplifying algebraic expressions with fractions and exponents
Generalizing situations using algebra

Pythagorean Theorem

Solving for the third length of a right-angled triangle
Pythagorean triples
Special right triangles

Various Modes of Representation

Cartesian plane: - axes, origin, quadrants, locating and placing points on the Cartesian plane
Graphing: - making and interpreting graphs
Independent and dependent variables
Producing tables of values and finding the related rule (linear situations)
Rate of change, Initial value, equation of a line in standard form $y = ax + b$, x & y intercepts
Definition of functions

- Modes of representation (tables, Cartesian graphs, rule, description)
- Characteristics and Properties of functions
(i.e. domain, range, max, min, increasing, decreasing, +, -)
- Graphing of different types of functions i.e. zero, rational, partial, direct and squared)

Algebraic Equations and Factoring

Solving algebraic equations by producing equivalent equations
Solving word problems using equations
Greatest Common Factor
Simple trinomials
Grouping
Complex Trinomials
Difference of squares
Solving equations and application word problems
Solving quadratic equations (by factoring)

Circles and Polygons

Definitions and Properties: Radius, diameter, circumference, chord, arc.
Calculating circumference, radius, arc length and sector area
Definitions: convex, concave, regular, irregular, names of polygons
Sum of interior angles (for all types of polygons), calculating missing angles
Perimeter and area of polygons

Solids

Definitions: Prism, Cylinder, Pyramid, Cone, Sphere
Nets of solids and surface area
Volume of solids and of decomposable solids