


Course Outline
Mathematics 9


Semester 1




Chapter 3:

Rational Numbers


- What is a Rational number?- decimal / fraction form
 - Compare and order
 - Irrational number
- Adding Rational Numbers – decimal, improper and mixed form
 - Problem solving
- Subtracting Rational Numbers –decimal, improper and mixed form
 - Problem solving
- Mid-Unit Review
- Multiplying Rational Numbers – decimal, improper and mixed form
 - Problem solving
- Dividing Rational Numbers – decimal, improper and mixed form
 - Problem solving
- Order of Operations – decimals, improper and mixed form
 - Problem Solving
- Review/Test





Course Outline
Mathematics 9

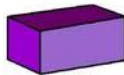
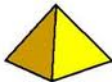

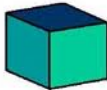
Semester 1




Chapter 1:


Square Roots and Surface Area:

- Perfect Squares - including rational numbers
- Non-Perfect Squares – estimate (number line) / calculator
- Pythagorean Theorem
- Surface Area – cubes, rectangular prisms, cylinders, triangular prisms
- Combinations of above objects
- Review/Test




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Chapter 7:

Similarity and Transformations

What Should I Recall? (Page 316-317) 

Isosceles Triangle/perpendicular bisector/Pythagorean Theorem/Angle sum of Triangle/
Congruent/line of symmetry

Scale Diagrams and Enlargements - Scale Factor
Drawing Scale Diagrams


Scale Diagrams & Reductions - decimal, improper and mixed form

Problem solving
Subtracting Rational Numbers - Drawing Scale Diagrams
Proportional
Using Scales to determine missing lengths
Similar Polygons - Similar
Corresponding Angles & Corresponding Sides
Properties of Similar Polygons
Drawing Similar Polygons
Solving Problems Using the Properties of Similar Polygons

Similar Triangles - Properties of Similar Triangles

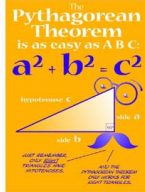
Mid-Unit Review


Reflections & Line Symmetry - Symmetry in Tessellations
Line of Symmetry & Line Reflection

Rotations & Rotational Symmetry - Rotational Symmetry/Rotational Order
Angle of Rotation symmetry
Drawing Rotation Images 


Identifying Types of Symmetry on the Cartesian Plane

Review/Test



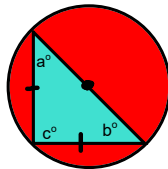


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Chapter 8:

Circle Geometry

Properties of Tangents to a circle - Tangent / Point of Tangency
Tangent and Radius Property
Pythagorean Theorem 

Properties of Chords in a Circle - Chord/Diameter/Perpendicular Bisector



Perpendicular to Chord Property 1
Perpendicular to Chord Property 2
Perpendicular to Chord Property 3

Verifying the Tangent and Chord Properties (page 400-401)

Mid-Unit Review

Properties of Angles in a Circle - arc/major arc/minor arc
Inscribed angle/Central Angle/ Subtended
Central Angle and Inscribed Angle Property
Inscribed Angles Properties
Angles in a semicircle Property


Review / Test

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Semester 1

Chapter 9:

Probability and Statistics



Probability in Society - Assumptions and Predicted

Potential Problems with Collecting Data - (Bias/ Language /Timing/Privacy...)


Using Samples and Populations to Collect Data- Populations/Census/Sample/
Valid Conclusions



Mid-Unit Review

Selecting a Sample - Simple Random/Self-Selected/Systematic or interval/
Convenience/Cluster/Stratified Random

Designing a Project Plan - Your own survey

Review/Test




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Semester 2

Chapter 2:

Powers and Exponent Laws:



What is a Power?

Powers of 10 and Zero Exponents

Order of Operations with Powers


Mid-Unit Review



Strategies to help simplify expressions with Powers

Exponent Laws 1 – Product of powers
Quotient of powers
Order of Operations





Exponent Laws 2 – Power of a Power
Power of a product
Power of a quotient
Order of Operations

Review/Test








Course Outline
Mathematics 9
Semester 2



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Polynomials: **Chapter 5:**

- Modeling Polynomials - (Algebra tiles)
term/coefficient/degree/constant/monomial/binomial/trinomial
- Like Terms & Unlike Terms - simplified form/zero pairs/perimeter with polynomials
- Adding Polynomials - sum of binomials/perimeter
- Subtracting Polynomials - subtract monomials/binomials/trinomials
- Mid-Unit Review
- Multiplying and Dividing a Polynomial by a Constant - binomial or trinomial by constant
- Multiplying and Dividing a Polynomial by a Monomial
- Review/Test



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Mathematics 9
Semester 2



Chapter 6:

Linear Equations and Inequalities:

- Solving Equations with Inverse Operations - Variables on one side
- Solving Equations by Using Balance Strategies -
- Variables on both sides/Rational Coefficients/Word Problems
- Mid -Unit Review
- Intro to Linear Inequalities - (<, >, ≤, and ≥) Graphing/Finding Solutions
- Solving Linear Inequalities by Using Addition and Subtraction
- Solving Linear Inequalities by Using Multiplication and Division - One-Step or Multi-Step
- Review/Test

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Semester 2

Chapter 4:

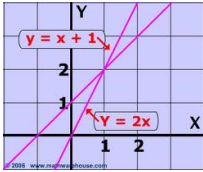
Linear Relations

Writing Equations to Describe Patterns – Written pattern
(Written explanation)
Oral pattern
(Sign/visual information)

Technology (spreadsheet)

Linear Relations – Analyze linear graph



Dependent / Independent Variables
Graphing using a- table of values
-equation
Problem Solving



Another Form of the Equation for linear equations – Horizontal lines ($y=5$)
Vertical lines ($x=7$)
Oblique lines ($ax+by=c$)


Mid-Unit Review
Matching Equations and Graphs
Using Graphs to Estimate Values – interpolation
-extrapolation


Technology
Review / Test


Marking Scheme

Test/Quiz & Assignments	70%
Exam	30%



Course Outline Mathematics 9



MATHEMATICS 9
COURSE OUTLINE: 2024-2025

TEACHERS: T. Matchett, D. Richard, D. Harding, M. Maltby-Ingersoll

TEXT: *Math Makes Sense 9* (available in TEAMS)

TECHNOLOGY:


- Microsoft Teams
- All copies of lessons, homework and assignments will be posted here daily.
- Visit the school website (www.myhs.nbed.nb.ca) and under "Teacher Pages" click on your teacher's name to find instructions for accessing TEAMS & Class Notebook.

MATERIALS:

- a scientific calculator (**MUST** have your own, **NO cell phones or tablets during class**)
- a binder with loose-leaf and graph paper for notes, homework, evaluations, etc.
- pencils, erasers and a ruler

ATTENDANCE:

- Students will be expected to maintain excellent attendance. If a student is absent from class, they are expected to log into TEAMS, PRIOR to returning to class, and ATTEMPT all lessons and assignments posted for corresponding days missed.
- If a student misses a test, it will be the responsibility of the student to present a satisfactory written excuse and to arrange to write the test on their own time.
- To be eligible for academic incentives, students must miss 7 or fewer classes & have a passing grade going into the exam. 3 lates = 1 absence



TOPICS:

9A (SEMESTER 1)	9B (SEMESTER 2)
UNIT 1: Rational Numbers (Chapter 3)	UNIT 1: Powers and Exponents Laws (Chapter 2)
UNIT 2: Square Roots and Surface Area (Chapter 1)	UNIT 2: Polynomials (Chapter 5)
UNIT 3: Similarity & Transformations (Chapter 7)	UNIT 3: Linear Equations and Inequalities (Chapter 6)
UNIT 4: Circle Geometry (Chapter 8)	UNIT 4: Linear Relations (Chapter 4)
UNIT 5: Probability & Statistics (Chapter 9)	


EVALUATION:		ACADEMIC INCENTIVE EVALUATION:	
Summative Assessments	70%	Summative Assessments	85% OR 50%
Final Assessment	30%	Final Assessment	15% OR 50%

A mark of **60%** is required to receive a passing grade. Tests are written once and only once – **no rewrites**.


MATH HELP CENTRE:
 This year, extra help will be offered to all grade 9 and 10 math students in room 4142.

- **Hours of operation**
 - Monday, Tuesday, Wednesday & Thursday 12:25 – 12:55

(**YOU MUST SHOW UP BY 12:25 P.M. TO PARTICIPATE.**)



Course Outline Mathematics 9



If you would like a BONUS MARK, have a parent or guardian email me with the following information on or before Friday, September 6, 2024:

STUDENT'S NAME

PARENT OR GUARDIAN'S NAME

PARENT OR GUARDIAN'S CONTACT INFORMATION [phone number(s)]

My email address: diana.harding@nbed.nb.ca



Grade 9/10 MATH HELP CENTRE

ROOM 4142

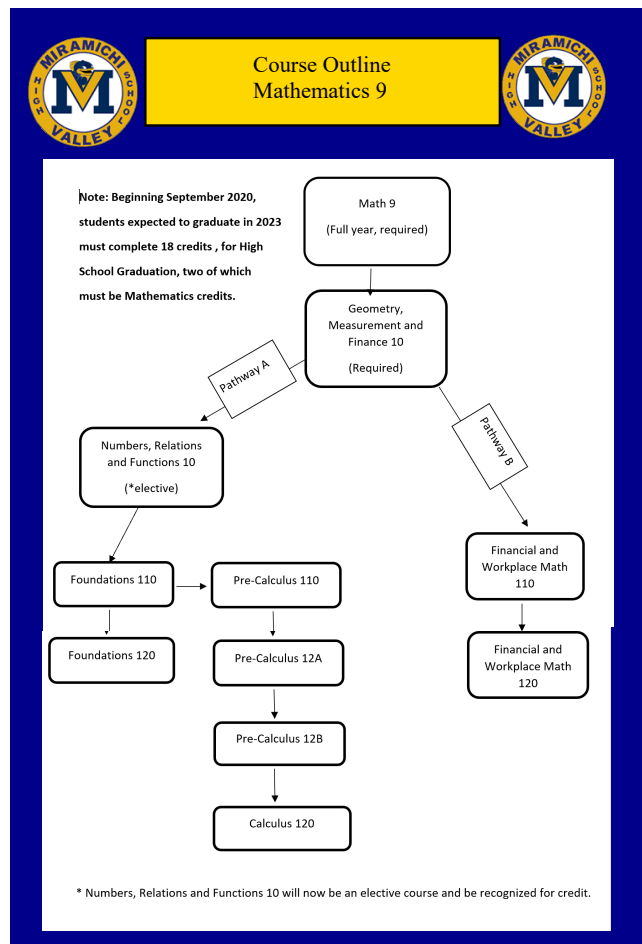
(Lab by Mrs. Matchett's Classroom)

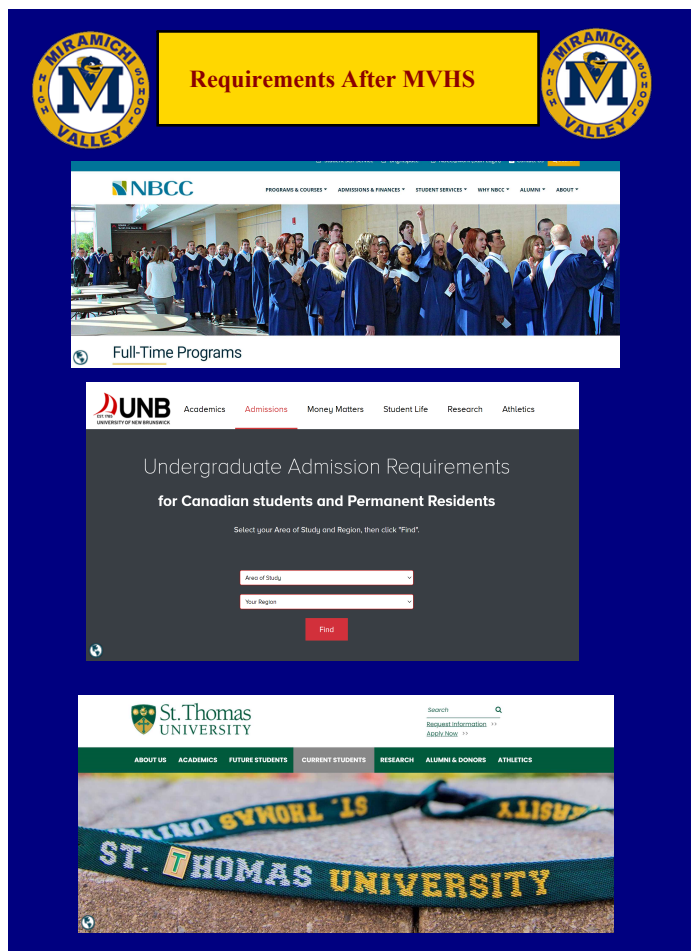


HOURS OF OPERATION



Monday to Thursday 12:25 – 12:55





10 Lessons I Want to Instill in My Kids

If you made a mistake, apologize.

If you're thankful, show it.

If you're confused, ask questions.

If you learn something, teach others.

If you're stuck, ask for help.

If you're wrong, fess up.

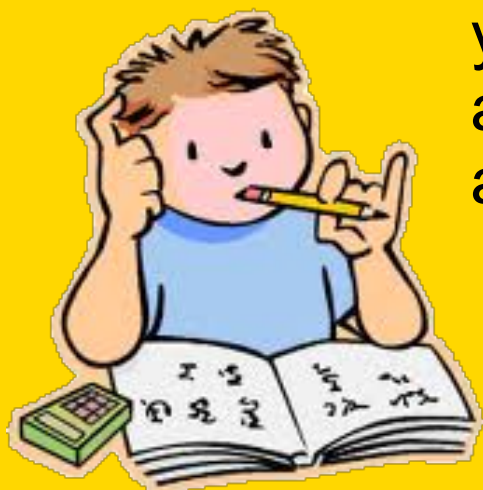
If you love someone, tell them.

If you trip, get back up.

If someone needs help, help them.

If you see wrong, take a stance.

WORDS TO LIVE BY



"If you always do what you always did, you'll always get what you always got."

(Henry Ford)