MATHEMATICS 9
COURSE OUTLINE: 2020 - 2021

TEACHERS: M. Burns, T. Matchett,   M. Maltby Ingersoll   & K. Sears

WEBSITE:
Microsoft Teams will be used, but updates will also be posted on the MVHS website and teachers' pages.

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:
Although the structure of this school year is different, attendance is very important. Should a student miss a day of instruction, be it in person or during home learning, students are responsible for all missed work. You are attending school every second day - one day, you are learning at school and the next, you are doing home learning. Remember – home learning attendance is just as vital as in-person attendance. We will be doing all assessments in class, so 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.

TOPICS:

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

****See Page 2 for the "Required Curriculum Outcomes" for the 2020-2021 school year.****

EVALUATION:

Tests / Quizzes / Assignments   80%

Demonstration of Learning   20%

* A mark of <u>60%</u> is required to receive a passing grade. *

MATH HELP CENTRE:
This year, extra help will be offered to all grade 9 and 10 math students in room 4157.

- Hours of operation: Monday to Friday, 12:30 – 12:55 p.m.

Mathematics 9

The curriculum document can be accessed here / Le programme d'études est accessible ici.

Required Outcomes	Remaining Outcomes
N1: Demonstrate an understanding of powers with integral bases (excluding base 0) and whole number exponents by: representing repeated multiplication using powers; using patterns to show that a power with an exponent of zero is equal to one; solving problems involving powers.	**N4:** Explain and apply the order of operations, including exponents, with and without technology.
N2: Demonstrate an understanding of operations on powers with integral bases (excluding base 0) and whole number exponents.	**N6:** Determine an approximate square root of positive rational numbers that are non-perfect squares.
N3: Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.	**PR4:** Explain and illustrate strategies to solve single variable linear inequalities with rational coefficients within a problem-solving context.
N5: Determine the square root of positive rational numbers that are perfect squares.	**PR5:** Demonstrate an understanding of polynomials (limited to polynomials of degree less than or equal to 2).
PR1: Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.	**SS1:** Solve problems and justify the solution strategy using circle properties, including: the perpendicular from the centre of a circle to a chord bisects the chord; the measure of the central angle is equal to twice the measure of the inscribed angle subtended by the same arc; the inscribed angles subtended by the same arc are congruent; a tangent to a circle is perpendicular to the radius at the point of tangency.
PR2: Graph linear relations, analyze the graph and interpolate or extrapolate to solve problems.	
PR3: Model and solve problems using linear equations, pictorially and symbolically.	
PR6: Model, record and explain the operations of addition and subtraction of polynomial expressions, pictorially and symbolically (limited to polynomials of degree less than or equal to 2).	**SS5:** Demonstrate an understanding of line and rotation symmetry.
PR7: Model, record and explain the operations of multiplication and division of polynomial expressions (limited to polynomials of degree less than or equal to 2) by monomials, pictorially and symbolically.	**SP1:** Describe the effect of: bias; use of language; ethics; cost; time and timing; privacy; cultural sensitivity on the collection of data.
	SP2: Select and defend the choice of using either a population or a sample of a population to answer a question.
SS2: Determine the surface area of composite 3-D objects to solve problems.	**SP3:** Construct, label, and interpret histograms to solve problems.
SS3: Demonstrate an understanding of similarity of polygons.	**SP4:** Develop and implement a project plan for the collection, display and analysis of data by: formulating a question for investigation; choosing a data collection method that includes social considerations; selecting a population or a sample; collecting the data; displaying the collected data in an appropriate manner drawing conclusions to answer the question.
SS4: Draw and interpret scale diagrams of 2-D shapes.	
	SP5: Demonstrate an understanding of the role of probability in society.