GRIMSHAW PUBLIC SCHOOL

"Inspiring Our Students Today For Tomorrow's Future"

Math 9 Course Outline
2023/24
Teacher: Wendy Pimm

I. Key Message/Expectations

- **Regular attendance –** To be successful in Math 9, the student must be attending classes and completing the work associated with learning the concepts and skills of the course. The student is responsible for getting notes and doing the work that was assigned if they are absent/late. If the student knows that they will be away, please notify the teacher so the student can pick up their work so they do not fall behind. Notes will be available ***online*** through **Google Classroom**.

- **Arrive on time/ Be prepared –** It is expected that you are at your desk ready to start class when the bell goes. If you are unable to avoid being late, please enter the classroom with a minimum of disruption. Books, pencils, scientific calculators, etc. are to be brought to class **every day**. Handouts, quizzes, assignments, notes and exams are to be kept in order in a binder.

- **Cell phones -** Cell phone usage in class is not acceptable, please leave your cell phone in your locker.

- **Work Habits –** It is expected that the student uses their class time to the best of their abilities for the whole period of every class. Respectful behaviour is a necessity to all members of the class and shall be reciprocated. I will be available during class as well as during success to help explain and work through problems and issues, when asked.

- **Homework/Exams –** It is the student's responsibility to make up for any work missed during an absence. Daily homework will be given in class and assessed as formative assessment, meaning the mark may be recorded but will not be part of the course mark. This is the necessary ongoing assessment that helps both the teacher and the student recognize which concepts are mastered.

- **Help Sessions –** Math 9 is a broad introduction into Math 10C. Many difficult topics are introduced, and the PAT at the end of the year is daunting. **Extra help is available before school, during lunch and sometimes after school. Please make arrangements with Mrs Pimm.**

- **Attitude –** Another necessity for this course is independence and accountability. You are responsible for keeping up with the homework, asking for help if needed, and studying for tests. This class is preparing you for secondary education, which requires all of these for graduation.

II. Course Overview

Students are curious, active learners with individual interests, abilities and needs. They come to classrooms with varying knowledge, life experiences and backgrounds. A key component in successfully developing numeracy is making connections to these backgrounds and experiences.

Students learn by attaching meaning to what they do, and they need to construct their own meaning of mathematics. This meaning is best developed when learners encounter mathematical experiences that proceed from the simple to the complex and from the concrete to the abstract.

Through the use of manipulatives and a variety of pedagogical approaches, teachers can address the diverse learning styles, cultural backgrounds and developmental stages of students, and enhance within them the formation of sound, transferable mathematical understandings. Meaningful student discussions provide essential links among concrete, pictorial and symbolic representations of mathematical concepts.***(Alberta Learning, 2016)***

III. Scope and Sequence

Unit A: Radicals and Powers

September

General Outcomes:

- Determine the square root of positive rational numbers that are perfect squares.
- Determine an approximate square root of positive rational numbers that are non-perfect squares.
- Demonstrate an understanding of powers with integral bases (excluding base 0) and whole number exponents
- Demonstrate an understanding of operations on powers with integral bases (excluding base 0) and whole number exponents

Unit B: Rational Numbers

October/November

General Outcomes:

- Demonstrate an understanding of rational numbers by, comparing and ordering rational and numbers solving problems that involve arithmetic operations on rational numbers
- Explain and apply the order of operations, including exponents, with and without technology

Unit C: Polynomials

November/December

General Outcomes:

- Demonstrate an understanding of polynomials (limited to polynomials of degree less than or equal to 2)
- Model, record and explain the operations of addition and subtraction of polynomial expressions, concretely, pictorially and symbolically (limited to polynomials of degree less than or equal to 2).
- 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, concretely, pictorially and symbolically.

Review: January

Unit D: Equations and Inequalities

February/March

General Outcomes:

- Generalize a pattern arising from a problem-solving context, using a linear equation, and verify by substitution
- Graph a linear relation, analyze the graph, and interpolate or extrapolate to solve problems
- Model and solve problems, using linear equations
- Explain and illustrate strategies to solve single variable linear inequalities with rational coefficients within a problem-solving context

Unit E: Geometry

March/April

General Outcomes:

- Determine the surface area of composite 3-D objects to solve problems
- Demonstrate an understanding of similarity of polygons
- Demonstrate an understanding of line and rotation symmetry
- Demonstrate an understanding of line and rotation symmetry
- Solve problems and justify the solution strategy, using circle properties

Unit F: Statistics

May

General Outcomes:

- Describe the effect of: bias, use of language, ethics, cost, time and timing, privacy, cultural sensitivity on the collection of data.
- Select and defend the choice of using either a population or a sample of a population to answer a question
- Develop and implement a project plan for the collection, display and analysis of data
- Demonstrate an understanding of the role of probability in society

Review: June

PAT - June 22 and 23, 2024

Note: completion dates are tentative and subject to change if necessary.

IV. Teaching Methodology

The methods used for instruction will include lectures, question-and-answer discussions, manipulative usage, textbook assigned questions, small group work, individual tutorials, and a variety of multimedia utilities.

V. Assessment

Formative Assessment: There will be a variety of formative assessments throughout the course. Formative assessment is designed to help students learn, provide practice and feedback and help students improve (O'Connor. 2012). This could include daily practice, workbook questions, assignments, quizzes, group work, etc. These assessments will **not** be factored into the course grade and shown in Powerschool. If you would like to discuss your child's formative assessments please contact the teacher.

Summative Assessment: The 6 units will be assessed as follows

Unit	Percent of Final mark	Unit	Percent of Final mark
Unit A: Powers	11%	Unit D: Equations	17%
Unit B: Rationals	13%	Unit E: Geometry	17%
Unit C: Polynomial	12%	Unit F: Statistics	5%
		PAT Exam:	25%

Each unit will have a major summative unit test, some will have a part A and part B - Part A worth 15% and part B worth 55%, units without a separation of parts will have an exam worth 70% of their unit mark, and multiple quizzes that will be worth 30% in total.

Any test that shows a higher mark than a quiz, will result in that quiz being changed to a formative mark. Also quiz redoes may be done at the discretion of Mrs. Pimm, and unit tests are available to be rewritten during review times in January and June, with the best mark being posted.

Examinations will all be secured within the school and available to students to look through without copying, during class after the examination is completed by all students, or outside class time if needed, please contact Mrs Pimm to schedule.

Marks will be updated on Powerschool. For information on how to access PowerSchool, please contact the school.

VI. Resources

A scientific calculator is essential for this course and will be used extensively.

Notes and Assignments and videos that explain course material may be posted to the ***Google classroom*** for students to access from home. The access code will be given in class; parents can get access from the teacher if they desire to see what the teacher has posted.

Textbooks will be given out and are the students responsibility to bring to class regularly.