MATH 9

Course Outline

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What are we going to learn about????

COURSE CONTENT

- CURRICULAR COMPETENCIES
  - How to use logic and reason to analyse and solve problems
  - How to understand and solve problems using multiple strategies
  - How to communicate and represent decisions and solutions
  - How to connect mathematical concepts to each other and other areas
  - How to reflect on mathematical thinking
- RATIONAL NUMBERS
  - How to compare and order rational numbers
  - How to solve problems that involve arithmetic operations on rational numbers
  - How to explain and apply the order of operations
  - How to estimate and determine square roots of rational numbers
- EXPONENTS
  - How to 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
  - How to demonstrate an understanding of operations on powers with integral bases (excluding base 0) and whole number exponents
- LINEAR RELATIONS
  - How to generalize a pattern arising from a problem-solving context using linear equations and verify by substitution
  - How to graph linear relations, analyse, and interpolate or extrapolate to solve problems
- ALGEBRA
  - How to model and solve problems using linear equations
  - How to explain and illustrate strategies to solve single variable linear inequalities with rational coefficients
- POLYNOMIALS
  - How to demonstrate an understanding of polynomials
  - How to model, record, and explain the operations of addition, subtraction, multiplication and division of polynomial expressions, concretely, pictorially, and symbolically
- SIMILARITY AND PROPORTIONAL REASONING
  - How to demonstrate an understanding of similarity of triangles and polygons
  - How to draw scale diagrams
- STATISTICS AND PROBABILITY
  - How to collect and analyse data
  - How to demonstrate the roll of probability in society
- FINANCIAL LITERACY
  - How to explain concepts involving banking, simple interest, savings and planned purchases
  - How to create a budget/plan

How can I be successful in Math????

WORK HABITS

Work habits are the biggest determining factor in student success.

1. Attend class and don't be late! This is the best thing you can do to be successful. If you are in class, you won't miss out on information. We recognize that sometimes people get sick or need to miss for an important reason, but recognize that school is important and you owe it to yourself to come!
2. Be actively involved in class. Participate! Ask questions! Answer questions!
3. Be positive! A great attitude goes a long way!
4. Persevere! When things get tough, keep trying! Try and find a new way of figuring things out. Don't give up.
5. Have a *growth mindset*. This means always strive to improve, no matter where you are. There is always more to learn and more we can be able to do. If you are working hard and getting better, you can be proud of yourself.
6. Be engaged! A focused, active, thinker who gladly accepts new challenges learns a lot!
7. Be curious! Ask probing questions and search for patterns and relationships.
8. Collaborate with others! Participate with your peers and help them learn as well. There are very few situations in life where you would work all by yourself and we can learn a lot from each other. We also learn by helping others and discussing.
9. Be prepared! If you don't arrive with all that you need, you will waste time that could be spend more productively. You should always have:
    - Your binder/notebook to write and store information and hand-outs
    - Pens and pencils
    - A calculator (NOT YOUR PHONE/IPOD)
    - A geometry set (ruler, protractor, compass)
    - Your text
    - Work you will need to continue working on/review from/hand in
    - Other things you know you like to use like highlighters, a pencil sharpener, white out, sharpies, pencil crayons etc.
10. Don't interrupt the learning of others. Class time is for everyone in the room and everyone has a right to learn.
11. Seek help if you need it! I am available most days before school, at lunch, and after school. There is also free tutoring in the library.

How is your mark determined????

ASSESSMENT

Grades are assigned according to the provincially prescribed learning outcomes. This is a list of what students are supposed to learn (the course content).

More details can be found at:
https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/mathematics_learning_standards_elab.pdf

For each learning outcomes students will be given a letter grade. No percentages are given in Grade 9, only levels of understanding.

C level understanding (C-/C/C+)

- ✓ Students have basic understanding of the concept
- ✓ They can answer and explain basic knowledge and comprehension questions
- ✓ They can recall, recite, explain, provide simple examples

B level understanding

- ✓ Students have good understanding of the concept
- ✓ They can apply understanding
- ✓ They can act on understanding, relate knowledge to a question they have never seen before, answer more multi-step problems

A level understanding

- ✓ Students have excellent understanding of the concept
- ✓ They can evaluate and analyse
- ✓ They can compare/contrast different strategies, create new problems, solve complex multi-step problems
- ✓ They have a high degree of accuracy and make few careless mistakes

An **"I"** indicates the student has not demonstrated sufficient understanding or they have not yet provided any evidence of understanding of a concept.

FINAL EXAM

Students will complete a summative final assessment. This is part of the evidence that will evaluate their understanding of learning outcomes.