Course: Foundations of Mathematics 11

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Course Description:

The Foundations of Mathematics 11 course covers the topic of geometry by looking at the proportional comparisons and properties of triangles, parallel lines, the sine law and the cosine law. The course also looks at statistical reasoning using the "Normal Curve" which allows us to notice trends and relationships. Systems of Linear Equations and Quadratic Functions can be represented in many connected ways.

Summer Learning Beliefs:

Summer Learning provides an engaging learning environment where all students can challenge themselves academically and fulfill their learning goals. To ensure this, students will:

- abide by the student Code of Conduct
- adhere to the Academic Honesty policy
- adhere to the *Summer Learning* Student Engagement policy
- respect themselves and others
- attend every class and be punctual
- inquire, think, and participate to the best of their ability
- access technology in class when instructed to do so and for learning purposes only
- challenge themselves and have fun learning

All Summer Learning policies can be accessed at:
https://www.sd44.ca/school/summer/policies/Pages/default.

Learning Plan:

	Evidence of Learning (Assessment)	Learning Plan
80%	• quizzes • tests • discussion • reflection Students will work with others, summarize key ideas, and present information and ideas to others to communicate their knowledge in mathematics.	*What the students will know:* **Mathematical reasoning and logic** •angle relationships • graphical representations of quadratic functions •graphical solutions to systems of equations •solving systems of linear inequalities •trigonometry with oblique angles •applications of probabilities and statistics in the real world
		What the students will do: **Reasoning and analyzing** • use reasoning and logic to analyze and apply mathematical ideas • estimate reasonably • use tools or technology to analyze relationships and test conjectures • model mathematics in contextualized experiences **Understanding and solving** • develop, demonstrate, apply conceptual understanding of mathematical ideas • visualize to explore and illustrate mathematical concepts and relationships • apply flexible strategies to solve problems • engage in problem-solving experiences which are connected to local First Peoples' communities **Communicating and representing** • communicate mathematical thinking in many ways • use mathematical vocabulary and language to contribute to mathematical discussions • represent mathematical ideas in a variety of ways
		What the students will understand: • **Proportional comparisons** can be made among triangles and

		angles. • **Quadratic functions** and systems of equations can be represented in many connected ways. • **Logical reasoning** helps us discover and describe mathematical truths. • **A statistical analysis** allows us to notice trends and relationships.
20%	School Based Summative Assessment	In writing a final exam, students will communicate, demonstrate, recognize and model the mathematical ideas presented in this course.
100%		

Grade Boundaries:

An "**A**" student will/can…

- Demonstrate and apply the curricular competencies.
- Analyze the information and synthesize the correct solution.
- Discern challenging patterns.
- Apply the concepts and extrapolate onto contextualized situations.
- Have superb command of numeracy (no computational error).
- Challenge problems in familiar and unfamiliar situations.

A "**B**" student will/can…

- Demonstrate and sometimes apply the curricular competencies.
- Analyze the information and synthesize the solution.
- Identify the complex patterns within the context.
- Apply the concepts and understand some details in contextualized situations.
- Have good command of numeracy.
- Challenge problems in familiar and is working towards unfamiliar situations.

A "**C**" student will/can…

- Demonstrate the curricular competencies.
- Organize the information and attempt to interpret the solution.
- Identify the patterns within the context.
- Build on the concepts and is still working on finding the details in contextualized situations.
- Solve routine two-step problems.

Celebration of Learning:

The 2018 Celebration of Learning is shaped around "Ways of Knowing".

Mathematics encourages students to question what they already know in an abstract manner. Math surrounds us; we see and use math skills and capabilities every day – from balancing our checkbooks to

advertising agencies to doctors. Everyone needs some level of specific mathematics knowledge. Most professions use math to perform their job better and to get ahead in the world.

To look at how we know our class will collaborate to create one Pecha Kucha presentation. A Pecha Kucha presentation uses imagery and spoken word. Each student is responsible for preparing 3 slides of images and 30 seconds of spoken content about the ways in which we know.

Resources:

Resources
• Foundations of Mathematics 11 Workbook
• Notepaper
• Graph paper
• Scientific Calculator (Recommended calculator: Sharp EL510RB Scientific Calculator with Advanced DAL)
• Pencil/Pen