



7th Grade Mathematics

Willows Preparatory School 2020-2021

Subject Aims

- Students appreciate the intrinsic fascination of mathematics and explore the world through its unique perceptions.
- Develop confidence, perseverance and independence in Mathematical thinking and problem solving.
- Communicate confidently and clearly in a variety of contexts.
- Appreciate the contribution of Mathematics in other areas.
- Reflect critically and constructively on their work and the work of others.
- Nurture the skills and knowledge required for students to take their studies in Mathematics beyond the MYP.

Keys to Class

- **OneNote** – We use OneNote to distribute course assignments, readings, links, and reflections. We also use OneNote as means of collaboration and project work.
- **Homework** – Our homework assignments revolve primarily around guiding students through the course material using a combination of applied contexts and practice drills. On average, students should be spending 20- 30 minutes on Math homework a day. This may fluctuate depending on projects taking place in class.
- **Collaborative learning environment** – Students are encouraged to engage the class and one another in discussion of principles and their implications.
- **Learning:** Students will learn mathematics with understanding and actively build new knowledge from experience and prior knowledge.
- **Technology:** Use different online sources, to enhance students' learning and productively challenge highly achieving students.

IB Grading Criteria

Objective A: Knowing and Understanding	<ul style="list-style-type: none">Do we have access to a selection of methods, processes and techniques? Can we apply them to challenging and unfamiliar problems?
Objective B: Investigating Patterns	<ul style="list-style-type: none">Can we generalize patterns and investigate their properties?
Objective C: Communicating	<ul style="list-style-type: none">Can we link together the different forms of Math to produce accurate, coherent solutions?
Objective D: Applying Mathematics in content	<ul style="list-style-type: none">How do we identify what is relevant? Can we justify our answers and reflect on the accuracy of our solutions?

Content Brief

<p>Unit 1. Operations of Algebra Integers and Properties Solving Equations with Variables</p> <p>Unit 2. Exponents and Radicals Properties Operations of Exponents and Radicals</p> <p>Unit 3. Polynomials Classification Factorization & Operations</p> <p>Unit 4. Linear Functions and Systems of Equations Graphing Linear Equations and Inequalities Solving Systems of Equations Applications of Systems of Equations</p> <p>Unit 5. Quadratic Function Various Methods of Solving Quadratics Graphing Quadratic Functions</p>	<p>Unit 6. Radical Expressions and Equations Simplifying Radical Expressions Solving Radical Equations</p> <p>Unit 7. Triangles and Quadrilaterals Classification and Properties Right Triangle Trigonometry</p> <p>Unit 8. Geometric Figures Classification and Properties Area, Surface Area and Volume</p> <p>Unit 9. Data Analysis and Probability Definitions and Methods Application of Probability and Statistics</p> <p>Unit 10. Advanced Topics Rational Expressions and Equations Exponential Functions</p>
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