

Dear Parents,

Helping kids understand and apply mathematics knowledge and skills is a collective responsibility of parents, teachers, and principals.

Students need to learn mathematics in a way that will serve them throughout their lives. Understanding mathematics can provide our students with many job and career opportunities.

This is why students need to know why mathematics works the way it does, how to use it with confidence and competence when solving problems.

Understanding mathematics enables us to:

- Solve problems, make sound decisions and perform calculations with ease
- Explain how we solved a problem and why we made a particular decision
- Understand patterns and trends so that we can make predictions
- Understand Financial Literacy to manage time and money
- Handle everyday situations that involve numbers and feel confident

Before your child can learn mathematics, he or she needs to believe in his or her ability to do so. That's where you come in!

Parents, you are your child's first role model for learning. When you engage with your child in a supportive, relaxed atmosphere, your child will enjoy exploring the world of mathematics.

Dynamic Math is committed to helping parents and students. We understand that not everyone learns the same way, and not everyone feels the same about math. This is why we are continually working to create math resources that help students of all abilities, while supporting the many learning styles and varying levels of enthusiasm towards math.

From our clear concise instructions and straightforward guided examples to our additional practice material and tests, there's something to suit everyone. Combined with our video tutorials, students will be able to get a tutor-like experience from anywhere and at a fraction of the cost of standard tutoring or after-school help programs.

Mathematics 12

Table of Contents

	Page		Page
CHAPTER 1 – TRANSFORMATIONS		CHAPTER 5 – TRIGONOMETRIC ANGLES AND GRAPHS	
1.1 Relations and Functions (Review)	2	5.1 Angle and Degree Measure	154
1.2 Transformational Geometry: A Conceptual Approach (Review)	10	5.2 Angles in Standard Position (Definition of Trig Functions)	158
1.3 Vertical and Horizontal Translations	23	5.3 Special Angles	169
1.4 Compressions and Expansions	29	5.4 Graphs of Trigonometric Functions	175
1.5 Reflections and Inverses	38	5.5 Transformations of Trigonometric Functions	181
CHAPTER 2 – POLYNOMIALS AND POLYNOMIAL EQUATIONS AND FUNCTIONS		CHAPTER 6 – TRIGONOMETRIC EQUATIONS AND IDENTITIES	
2.1 Division of Polynomials	52	6.1 Basic Trigonometric Identities	198
2.2 Remainder Theorem	58	6.2 Sum and Difference Identities	204
2.3 Zero-Product Property	67	6.3 Double Angle Identities	207
2.4 Factor Theorem	72	6.4 Basic Trigonometric Equations	210
2.5 Rational and Number of Roots Theorems	76	6.5 Applications of Trigonometric Equations	216
2.6 Polynomial Functions	79	CHAPTER 7 – EXPONENTS AND LOGARITHMS	
2.7 Solving Polynomial Inequalities	87	7.1 Review of Exponents	224
2.8 Using a Graphing Calculator	91	7.2 Exponential Functions	228
CHAPTER 3 – RADICAL, ABSOLUTE VALUE, AND RATIONAL EQUATIONS AND INEQUALITIES		7.3 Logarithmic Functions	232
3.1 Radical Functions	101	7.4 Properties of Logarithms	242
3.2 Radical Equations	110	7.5 Solving Exponential and Logarithmic Equations	247
3.3 Asymptotes	113	7.6 Solving Exponential and Logarithmic Identities	251
3.4 Rational Functions	117	7.7 Application Problems and Exponents and Logarithms	253
3.5 Rational Equations	123	CHAPTER 8 – COMBINATORICS	
CHAPTER 4 – COMPOSITE FUNCTIONS/OPERATIONS		8.1 Fundamental Counting Principle	270
4.1 Addition and Subtraction of Functions	130	8.2 Factorial Notation	276
4.2 Multiplication and Division of Functions	134	8.3 Permutations	280
4.3 Composite Functions	138	8.4 Combinations	286
4.4 Using a Graphing Calculator to Graph Operations with Functions	141	8.5 Binomial Theorem	291
4.5 Using a Graphing Calculator to Graph Composite Functions	146	ANSWERS TO EXERCISES AND CHAPTER TESTS	
		300	