

PETERS TOWNSHIP MIDDLE SCHOOL

COURSE SYLLABUS: ALGEBRA 1 ACADEMIC

Course Information	Teacher Information
<u>Course Length:</u> Full Year	<u>Name:</u> Mrs. Kedzuf, Mrs. McCune, Mrs. Rebar

Course Overview and Essential Skills

The course focuses on developing problem solving skills by making and justifying generalizations based on their experiences with fundamental algebraic concepts. Linear and quadratic functional relationships are examined in a variety of problem situations, and these functions form the basis for the study of equations and the development of algebraic skills. Students use a variety of representations such as concrete, numerical, algorithmic, and graphical.

Course Textbook, Supplemental Resources and Required Materials

- Algebra 1 (2011) & ISBN#: 978-0-030-99574-3
- Textbook website: my.hrw.com
- Think Through Math Website: https://lms.thinkthroughmath.com/users/sign_in
- Materials:
 - Binder and paper (or folder and notebook)
 - Pencils
 - Red pen
 - Calculator: TI-30XS Multiview (best calculator for use in Algebra 1)



Course Outline of Material Covered:

Unit or Topic	Course Activities/Resources	Timeframe
Chapter 1: Foundations for Algebra <ul style="list-style-type: none"> • Powers and Exponents • Roots and Real Numbers • Order of Operations 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 2 weeks
Chapter 2: Equations <ul style="list-style-type: none"> • Solve Two-Step and Multistep Equations • Solve Equations with Variables on Both Sides • Solve for a Variable • Solve Absolute-Value Equations 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 3 weeks
Chapter 3: Inequalities <ul style="list-style-type: none"> • Solve Two-Step and Multistep Inequalities • Solve Inequalities with Variables on Both Sides • Solve Compound Inequalities • Solve Absolute-Value Inequalities 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 3 weeks

<p>Chapter 4: Functions</p> <ul style="list-style-type: none"> • Graph Relationships • Relations and Functions • Write Functions • Graph Functions • Scatterplots and Trend Lines 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 2 weeks
<p>Chapter 5: Linear Functions</p> <ul style="list-style-type: none"> • Identify Linear Functions • Use Intercepts • Rate of Change and Slope • The Slope Formula • Slope-Intercept Form • Point-Slope Form • Slopes of Parallel and Perpendicular Lines 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 4 weeks
<p>Chapter 6: Systems of Equations and Inequalities</p> <ul style="list-style-type: none"> • Solve Systems by Graphing • Solve Systems by Substitution • Solve Systems by Elimination • Solve Special Systems • Solve Linear Inequalities • Solve Systems of Linear Inequalities 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 4 weeks
<p>Chapter 7: Exponents and Polynomials</p> <ul style="list-style-type: none"> • Integer Exponents • Multiplication Properties of Exponents • Division Properties of Exponents • Powers of 10 and Scientific Notation • Polynomials • Add and Subtract Polynomials • Multiply Polynomials 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 5 weeks
<p>Chapter 8: Factoring Polynomials</p> <ul style="list-style-type: none"> • Factors and Greatest Common Factors • Factor by a GCF • Factor $x^2 + bx + c$ • Simplify Rational Expressions 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 3 weeks
<p>Standardized Algebra Review</p> <ul style="list-style-type: none"> • Pythagorean Theorem • Linear Equations • Systems of Equations and Inequalities • Rational and Irrational Numbers • Evaluate Roots • Transformations • Exponents • Radical Expressions 	<ul style="list-style-type: none"> • Focus problems • Notes and individual and group practice for each section in the unit packet • Homework • Quizzes and Test 	Approximately 6 weeks