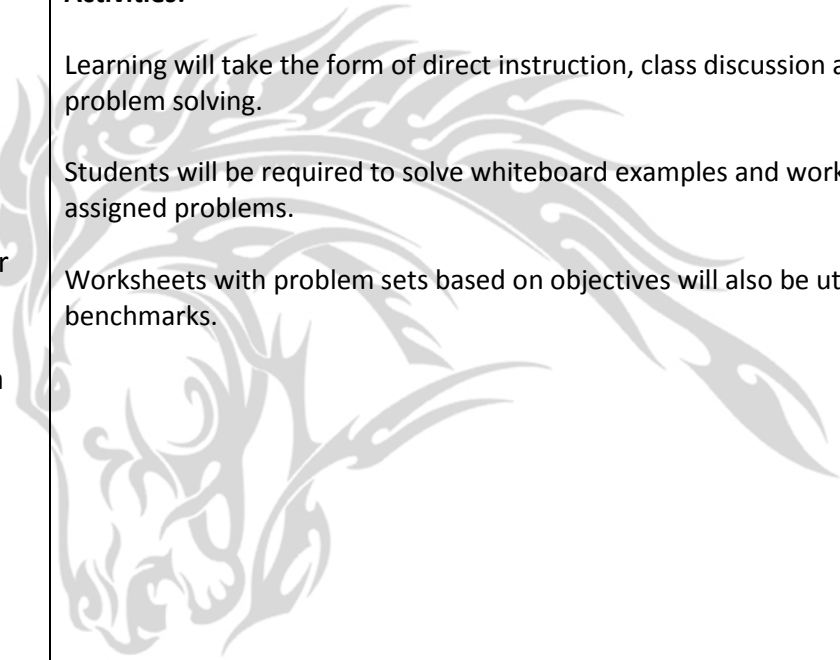


<b>School Division:</b> Upper	<b>Title of Course:</b> Level III Math – Algebra (Part 2) <b>Length of Course:</b> 9 Weeks	<b>Program Syllabus prepared by:</b> Trudy Crossbourne
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<b>Essential Questions:</b> <ul style="list-style-type: none"><li>• What is an exponent?</li><li>• What is a power?</li><li>• What is the difference between decimal and scientific notation?</li><li>• How is scientific notation useful?</li><li>• Which everyday situations call for use of scientific notation?</li><li>• What is a monomial?</li><li>• What is the difference between a monomial and a polynomial?</li><li>• How are negative exponents derived?</li><li>• What is the degree of a polynomial?</li></ul>	<b>Activities:</b> <p>Learning will take the form of direct instruction, class discussion as well as group and individual problem solving.</p> <p>Students will be required to solve whiteboard examples and work in small groups to solve a set of assigned problems.</p> <p>Worksheets with problem sets based on objectives will also be utilized to determine mastery of benchmarks.</p> 
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Standard 1: Uses a variety of strategies in the problem solving process.		
Benchmark	Description	Evidence of Mastery
IV- 1	Uses a variety of strategies (e.g., identify a pattern, use equivalent representations) to understand new mathematical content and to develop more efficient solution methods or problem extensions	Solves at least 3 out of every 5 worded problems assigned.
III-1	Understands how to break a complex problem into simpler parts or use a similar problem type to solve a problem	Solves at least 3 out of every 5 worded problems assigned.
Standard 2: Understands and applies basic and advanced properties of the concepts of numbers.		
Benchmark	Description	Evidence of Mastery
III- 5	Understands the characteristics and uses of exponents and scientific notation	Through classroom discussion students will communicate the benefits of using scientific notation as opposed to decimal notation. They will also name specific everyday examples of uses of scientific notation. By solving practice problems students will demonstrate an understanding of how to convert numbers from decimal notation to scientific notation and vice versa. Students will also compute products and quotients using scientific notation and exponents.
IV-2	Understands the properties and basic theorems of roots, exponents (e.g., $[b^m][b^n] = b^{m+n}$ )	Assigned practice problems will give students the opportunity to demonstrate that they understand how to multiply and divide monomials using the theorems of exponents: <i>product of powers, power of a power, power of a product, power of a monomial, quotient of powers, zero exponent and negative exponent.</i>
Standard 8: Understands and applies basic and advanced properties of functions and algebra		
Benchmark	Description	Evidence of Mastery
V- 4	Adds, subtracts, and multiplies, polynomials	Through classroom discussion and assigned tasks; students will distinguish between monomials and polynomials (identifying binomials and trinomials). They will also determine the degree of a polynomial and arrange its terms in ascending or descending order in terms of powers of a particular variable. By solving assigned problems students will demonstrate the ability to use addition and subtraction of polynomials to simplify expressions. They will also show an understanding of multiplying

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		a polynomial by: a monomial, a binomial, a trinomial. Additionally, students will recall and appropriately use the patterns for $(a+b)^2$ , $(a-b)^2$ and $(a + b)(a - b)$
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Grading: Student Grades will be determined as follows	
Homework	15%
Class Work	25%
Participation	10%
Quizzes	15%
Tests	35%

Resources Foster, Alan G. et. al. <u>Algebra1</u> Glencoe McGraw-Hill New York 1995
Text Support Materials: ReTeaching Workbook Practice Workbook
Online Support: <a href="http://www.edhelper.com">www.edhelper.com</a> ; <a href="http://www.glencoe.com/sec/math/algebra/algebra1/algebra1_05/index.php4/na">http://www.glencoe.com/sec/math/algebra/algebra1/algebra1_05/index.php4/na</a>

Additional Teacher Comments: The Algebra Course has been divided into two parts so that students progress through the course at a pace suitable for student learning.
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