

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: ARTH 078 Department: Mathematics

Course Title: Pre-Algebra Lecture Semester: Spring Year: 1997

Objectives/Competencies

Course Objective	Competencies
1. Perform operations involving whole numbers.	<ol style="list-style-type: none">1. Identify place-value ordering.2. Perform four basic operations of arithmetic.3. Solve simple equations with whole numbers.4. Convert from expanded notation to standard notation.5. Round and estimate whole numbers.6. Solve problems using whole numbers.
2. Perform multiplication and division using fractional notation.	<ol style="list-style-type: none">1. Find the factors of a whole number.2. Perform prime factorization.3. Identify numerator and denominator of a fraction.4. Multiply fractions.5. Simplify fractions.6. Identify reciprocal numbers and fractions.7. Divide fractions.8. Solve problems involving multiplication and division of fractions.
3. Perform addition and subtraction of fractions and perform	<ol style="list-style-type: none">1. Determine least common denominators.

Course Objective	Competencies
<p>operations using mixed numerals.</p> <p>4. Perform operations using decimal notation.</p> <p>5. Apply ratio and proportion in problem solving.</p> <p>6. Apply percent notation in problem solving.</p>	<ol style="list-style-type: none"> 2. Identify mixed numerals. 3. Perform addition and subtraction of fractions and mixed numerals. 4. Perform multiplication and division using mixed numerals. 5. Apply correct order of operations. <ol style="list-style-type: none"> 1. Express word names for money values. 2. Identify place-value ordering for decimal notation. 3. Convert from decimal notation to fractional notation. 4. Convert from fractional notation to decimal notation. 5. Determine rounding and order of decimals. 6. Perform addition and subtraction of decimals. 7. Solve problems involving decimals. 8. Perform multiplication and division of decimals. 9. Perform estimating. 10. Solve problems involving decimals. <ol style="list-style-type: none"> 1. Describe ratios. 2. Interpret rates. 3. Describe proportions. 4. Perform proportion problems. 5. Recognize similar triangles. <ol style="list-style-type: none"> 1. Describe percent notation. 2. Solve percent problems using proportions. 3. Use percentage in problem solving and consumer

Course Objective	Competencies
<p>7. Identify basic descriptive statistics.</p> <p>8. Apply linear systems of measurement in solving geometric problems.</p> <p>9. Perform operations using the real number system.</p>	<p>applications.</p> <ol style="list-style-type: none"> 1. Identify average, median, mode for data sets. 1. Describe linear measures in American and metric units. 2. Convert between American Units and metric units. 3. Interpret perimeter and area for various figures.. 4. Apply the Pythagorean theorem. 5. Interpret volume of rectangular solids. 6. Calculate capacity using American and metric units. 1. Identify components of the real number system: integers, rational numbers, irrational numbers. 2. Identify the absolute value of a number. 3. Perform addition, subtraction, multiplication and division of real numbers.