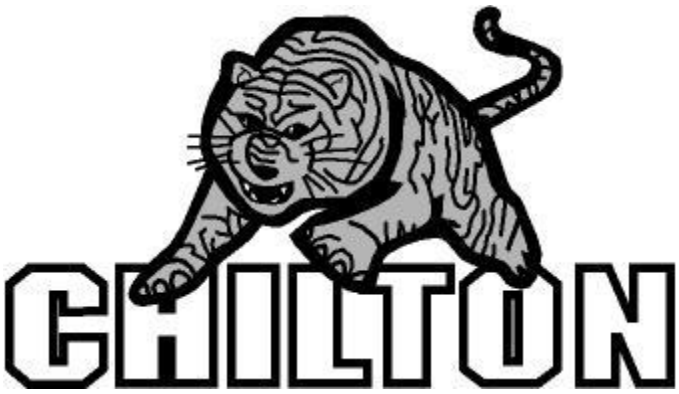

Curriculum Document for Mathematics

Course Title: Algebra I **Grade: 9-12**

Learner Objective #1: Students will use correct vocabulary, logical reasoning skills, and appropriate technology and methods to solve problems.

- Represent number relations with algebraic symbols.
- Solve arithmetic phrases using the rules of order of operations.
- Utilize the properties of real numbers to aid in solving algebraic problems.
- Solve equations using the addition, subtraction, multiplication, and division properties of real numbers.
- Solve algebraic equations with variables on both sides.
- Solve inequalities over the set of real numbers.
- Write and solve equations and inequalities from word problems.
- Set up and solve equations containing parenthetical expressions.
- Set up and solve equations containing fractional and decimal expressions.
- Solve a system of linear equations simultaneously.

Learner Objective #2: Students will effectively use numbers for, measuring, estimating, and problem solving.

- Represent number relations with algebraic symbols.
- Solve arithmetic phrases using the rules of order of operations.
- Utilize the properties of real numbers to aid in solving algebraic problems.
- Evaluate formulas used to find perimeters, areas, and volumes.
- Solve equations using the addition, subtraction, multiplication, and division properties of real numbers.
- Solve algebraic equations with variables on both sides.
- Solve inequalities over the set of real numbers.

- Write and solve equations and inequalities from word problems.
- Set up and solve equations containing fractional and decimal expressions.
- Simplify algebraic expressions containing square roots.

Learner Objective #3: Students will use geometric concepts and relationships to interpret, represent, and solve problems.

- Evaluate formulas used to find perimeters, areas, and volumes.
- Write and solve equations and inequalities from word problems.
- Display a linear equation graphically in two-dimensional space.
- Solve a system of linear equations simultaneously.

Learner Objective #4: Students will use appropriate tools to measure accurately. Students will use measurements in problem-solving situations.

- Evaluate formulas used to find perimeters, areas, and volumes.

Learner Objective #5: Students will use data, statistics, and appropriate technology in problem-solving situations.

- Represent number relations with algebraic symbols.
- Evaluate formulas used to find perimeters, areas, and volumes.
- Solve equations using the addition, subtraction, multiplication, and division properties of real numbers.
- Write and solve equations and inequalities from word problems.
- Display a linear equation graphically in two-dimensional space.
- Solve a system of linear equations simultaneously.
- Simplify algebraic expressions containing square roots.

Learner Objective #6: Students will use algebraic techniques to define and solve problems.

- Represent number relations with algebraic symbols.
- Solve arithmetic phrases using the rules of order of operations.
- Utilize the properties of real numbers to aid in solving algebraic problems.
- Evaluate formulas used to find perimeters, areas, and volumes.
- Perform addition, subtraction, multiplication, and division of signed numbers.

- Solve equations using the addition, subtraction, multiplication, and division properties of real numbers.
- Solve algebraic equations with variables on both sides.
- Solve inequalities over the set of real numbers.
- Write and solve equations and inequalities from word problems.
- Perform basic operations with polynomial expressions.
- Set up and solve equations containing parenthetical expressions.
- Set up and solve equations containing fractional and decimal expressions.
- Display a linear equation graphically in two-dimensional space.
- Solve a system of linear equations simultaneously.
- Factor algebraic expressions to facilitate reducing algebraic fractions.
- Simplify algebraic expressions containing square roots.