



Curriculum Document for Mathematics

Course Title: Introduction to Algebra

Grade: 9-12

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

- Simplify expressions using the distributive property.
- Write and use inequalities.
- Find the absolute value of a number.
- Use exponents in expressions and equations.
- Solve phrases involving the basic operations using the correct order of operations.
- Find the Greatest Common Factor and Lowest Common Multiple for a set of numbers.
- Compare fractions.
- Multiply and divide using exponents.

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

- Compare and order fractions.
- Determine whether one number is a factor or prime factor of another number.
- Perform the operations of addition, subtraction, multiplication, and division with whole numbers, fractions, and decimals.
- Convert per cent to decimals and fractions and use those to solve appropriate word problems.

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

- Classify angles and triangles according to their measures and shapes.
- Find the circumference of a circle.
- Find the perimeter and area of circles, triangles, and rectangles.
- Graph points in the Cartesian Coordinate System.
- Find the slope and y-intercept of a line.
- Graph equations in two dimensions.
- Solve systems of equations graphically.

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

- Relate units of measure using the English and Metric systems of measurement.
- Use a ruler measure length.
- Use a protractor to measure angles.

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

- Gather and record data and use in a frequency table or histogram.
- Use a sample to predict the actions of a larger group.

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

- Transfer word phrases into variable expressions.
- Solve equations using addition, subtraction, multiplication, and division.
- Solve proportions derived from word problems.
- Solve equations with variables on both sides.
- Solve systems of equations algebraically.
- Solve word problems algebraically.