

MAT 065 Basic Algebra

MAT 065 Course Objectives

Upon completion of this course, the student can:

1. Solve linear equations in one variable.
2. Solve literal equations for a specified variable.
3. Solve linear inequalities.
4. Write sets using interval and set-builder notations.
5. Translate verbal statements into algebraic expressions.
6. Apply the rules of integer exponents.
7. Add, subtract, and multiply polynomials of one or more variables.
8. Divide polynomials of one variable.
9. Plot points in the rectangular coordinate plane.
10. Graph a linear equation in two variables using multiple methods.
11. Determine the slope of a line given the two points, a graph, or an equation.
12. Determine the intercepts of a line.
13. Determine if two lines are parallel, perpendicular, or neither based on slope.
14. Factor polynomials by finding the greatest common factor, by grouping, and by using special products.
15. Factor general trinomials.
16. Solve polynomial equations by factoring.
17. Solve systems of linear equations in two variables using multiple methods.
18. Solve applied problems using these competencies with real world applications.

MAT 065 Course Outline

- I. Linear Equations and Inequalities
 - A. Solving Linear Equations
 - B. Solving Literal Equations
 - C. Solving Linear Inequalities
 - D. Set-Builder and Interval Notation
 - E. Translating Verbal Statements Into Algebraic Expressions
- II. Polynomials
 - A. Rules of Integer Exponents
 - B. Adding, Subtracting, and Multiplying Polynomials
 - C. Dividing Polynomials
 1. Dividing By Monomials
 2. Long division by Linear Binomials
- III. Lines
 - A. Plotting Points
 - B. Graphing Linear Equations Using Multiple Methods
 - C. Finding Slope
 - D. Finding Intercepts
 - E. Parallel and Perpendicular Lines
- IV. Factoring
 - A. Greatest Common Factor
 - B. Grouping

- C. Special Products
 - D. Factoring General Trinomials
 - E. Solving Polynomial Equations by Factoring
- V. Systems of Two Linear Equations
- A. Elimination Method
 - B. Substitution Method