

# List of Topics for the St. Anthony's High School Math Department Placement Test

*We understand that your child may not have covered all of the given topics by the time of the exam. The purpose of the exam is to recommend the **BEST** placement for all incoming freshmen. The test is designed to allow us to do that.*

## **I. Real Number System**

- A. Numbers and Algebra
- B. Properties and Laws
- C. Sets/Operations on Sets
- D. Mathematical Systems
- E. Signed Numbers/Order of Operations
- F. Dimensional Analysis/Conversion Factors
- G. Error Measurement

## **II. Equations and Inequalities**

- A. Linear Equations
- B. Linear Inequalities
- C. Solving Systems of Equations Algebraically
- D. Algebraic Expressions
  - 1. Exponents – Integral Exponents
  - 2. Scientific Notation
  - 3. Evaluating Algebraic Expressions and Formulas

## **III. Polynomials**

- A. Operations on Monomials and Polynomials
- B. Factoring
  - 1. Difference of Two Squares
  - 2. Common Monomial
  - 3. Trinomials
  - 4. Complete Factoring
- C. Solving Quadratic Equations by Factoring

## **IV. Algebraic Fractions**

- A. Determining When a Fraction is Undefined
- B. Simplifying/Reducing
- C. Multiplication and Division
- D. Addition and Subtraction
- E. Solving Equations Involving Fractional Expressions

## **V. Radicals**

- A. Simplifying
- B. Multiplication and Division

C. Addition and Subtraction

**VI. Ratio and Proportion**

A. Simplifying Ratios

B. Solving Proportions

C. Direct Variation

D. Percents – Increase, Decrease and Discounts

**VII. Graphing on the Coordinate Plane**

A. Definitions and Terminology

B. Linear Equations

1. Slope a. As a Rate of Change b. Formula Using Two Points on a Line

2. Intercepts

3. Graphing a. Using Two Points b. Using Slope and Intercepts c. Using a Table of Values

C. Graphing Linear Inequalities

D. Solving Systems of Equations Graphically E. Graphing Systems of Linear Inequalities

**VIII. Parallel and Perpendicular Lines Cut by Transversals**

**IX. Area and Perimeter of Geometric Figures**

**XX. Area and Circumference of Circles**