



St. Mary's Academy

Algebra Placement Exam Review Sheet

(To place into Accelerated Algebra or Geometry)

The Algebra Placement Exam Review Sheet is for students hoping to enroll in Accelerated Algebra or Geometry for their freshman year at SMA. These students must have taken Algebra 1 in middle school. All topics can be found in any standard Algebra textbook.

ALGEBRA TOPICS:

General Topic	Specific Skills
Simplifying Expressions (with and w variables)	<ul style="list-style-type: none">• Order of operations• Addition and subtraction of signed numbers• Using the distributive property• Combining like terms• Multiplying and dividing signed numbers• Multiplying a monomial and a polynomial• Multiplying two binomials• Multiplying a binomial and a trinomial• Expressions with Absolute value
Area and Perimeter	<ul style="list-style-type: none">• Solving a problem given area and/or perimeter of an object
Solving Linear Equations	<ul style="list-style-type: none">• Solving equations with variables on one side• Solving equations with variables on both sides• Solving equations involving parentheses• Solving equations involving like terms• Writing and solving proportional equations
Graphing on the Coordinate Plane	<ul style="list-style-type: none">• Graphing Ordered pairs• Graphing Linear equations from:<ol style="list-style-type: none">1. a table of values2. an equation with slope and y-intercept
Working with Linear Functions	<ul style="list-style-type: none">• Rates of change and slope• Identify a graph, table, or word problem as linear or non-linear• Identify slope & y-intercept from a graph or word problem• Write equation of a line given:<ol style="list-style-type: none">1. slope and y-intercept2. 2 points on the line3. slope and one point on the line4. standard form of a line5. a situation that follows a linear pattern6. a table that follows a linear pattern
Solving Systems of Equations	<ul style="list-style-type: none">• Using substitution• Using the addition/subtraction (elimination) method• By graphing• Writing a system and solving from a word problem
Solving Linear Inequalities	<ul style="list-style-type: none">• Same skills as listed under "Solving Linear Equations" but with inequalities

Graphing Linear Inequalities	<ul style="list-style-type: none"> • Graphing solutions to an inequality on a number line • Graphing solutions to a two-variable inequality on a graph
Patterns	<ul style="list-style-type: none"> • Observing and representing patterns using math.
Function Notation	<ul style="list-style-type: none"> • Understanding and using $f(x)$ notation
Quadratic Functions	<ul style="list-style-type: none"> • Drawing a quadratic function from a table of values • Solving a quadratic by using the Quadratic Formula (will be provided) • Solving a quadratic by factoring and/or the zero-product property
Factoring methods	<ul style="list-style-type: none"> • Factoring out a common monomial factor • Factoring a trinomial expression • Factoring a difference of two perfect squares
Exponential Functions	<ul style="list-style-type: none"> • Sketching an exponential function based on an equation • Using the initial value and growth factor to write an equation
Simplifying Expressions w/ Exponents	<ul style="list-style-type: none"> • Multiplying and dividing exponential expressions • Simplifying expressions with negative exponents • Powers of exponential expressions