

Form A Placement Exam Topics

Form A	Students who have completed one full year of Algebra 1
Form G	Students who have completed at least: One full year of Algebra 1 and one full year of Geometry

To prepare, you may review the topics you were taught using the following list:

Note: The conceptual category of modeling is included in Algebra 1.

Modeling expressions is covered under most major topics.

<p><u>Algebra</u> Number Lines The Real Number System Rational and Irrational Numbers Order of Operations Bases, Exponents, and Powers Exponential Equations Operations with Monomials Adding and Subtracting Polynomials Solving Linear Equations Word Problems Leading to Linear Equations Multiplying Monomials and Polynomials Power of a Product Multiplying a Polynomial by a Monomial Multiplying Two Polynomials Dividing a Polynomial by a Monomial Solving linear equations, including literal ones Squaring Binomials/ Multiplying Binomials Factoring: Greatest Common Monomial Factor Factoring: Difference of Two Squares Factoring: Trinomials Factoring: Combining Several Methods Factoring Third Degree Polynomials by Grouping Roots of Quadratic Equations Solving Quadratic Equations by Factoring Solving Quadratic Equations: Verbal Problems Solving Quadratic Equations by completing the square and the formula Solving Systems of Linear-Quadratic Equations Solving Word Problems Using Systems of Equations Multiplying Rational Expressions Dividing Rational Expressions Simplifying Rational Expressions Adding and Subtracting Rational Expressions (Same and Different Denominator) Percentage Problems</p>	<p><u>Algebra (continued)</u> Solving Systems of Linear Equations (Elimination Method) Solving Systems of Linear Equations (Substitution Method) Solving Systems of Linear Equations (Mixed/Verbal Problems/graphically) Square Roots of Numbers and of Variable Expressions Absolute Value Multiplying and Dividing Radical Expressions Adding and Subtracting Radical Expressions Solving Radical Equations Solving Inequalities/Combined Inequalities Solving Inequalities: Verbal Problems Graphing Inequalities Graphing systems of linear equations</p> <p><u>Functions</u> Function notation/Domain/Range Families of Functions Transformations with Functions Defining and comparing functions Identifying the equation of a graph Piecewise functions Absolute value functions Rate of change Graph of $y = f(x)$: roots, intercepts Real solutions of $f(x) = g(x)$ Applications of linear and quadratic functions Exponential Functions: $f(x) = a \cdot b^x$ and word problems leading to exponential functions</p>
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Geometry

Geometric Figures: Parallelograms, Triangles, Trapezoids
Complementary and Supplementary Angles
Vertical Angles
Angles/Parallel Lines/Perpendicular Lines
Angles and the Triangle
Isosceles, Equilateral and Right Triangles
Pythagorean Theorem
Perimeter, Area, Volume
Area including polygons, Circles and Cubes
Circumference and Area of a Circle
Ratio and Proportion
The Parabola, the Nature of the Parabola, its Graph,
 $y = a(x - h)^2 + k$ form
Identifying the vertex of a Quadratic given equation/graph
Ordered Number Pairs and Points in a Plane
Slope of a Line/ Midpoint of a Line Segment
Points of Intersection
Equation of a Line
Graphing Lines/Graphing Linear Inequalities
Systems of linear inequalities

Transformations

Line Reflection and Line Symmetry
Point Reflection and Point Symmetry
Translation
Dilation
Rotation

Probability and Statistics

Counting Principle
Simple Probability
Event A and B , Event A or B
Measures of Central Tendency: Mean/Median/Mode
Interquartile range
Dot Plots
Outliers
Analysis of data