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| **Pre- Algebra/Math Foundations** | **Algebra 1 and Math Strategies** | **Geometry** | **Algebra 2** |
| 1. Evaluate expressions involving rational numbers, i.e. decimals and fractions and integers
2. Compare and calculate ratios, rates, and percentages
3. Use prime factorization to analyze integers.
4. Convert length, capacity, weight, temperature, and time between units
5. Analyze various visual representations of data
6. Identify the probability of one event and multiple events
7. Evaluate equations for unknown quantities
8. Translate between verbal phrases/sentences and mathematical expressions/equations, respectively
9. Calculate perimeter, area, surface area, and volume
10. Develop function rules and tables
 | 1. Solve and create linear equations and inequalities
2. Use the properties of exponents to simplify expressions
3. Analyze and graph linear equations and inequalities
4. Classify relations as functions
5. Interpret functions and their graphs
6. Solve and graph systems of linear equations and inequalities.
7. Interpret data sets
8. Solve and graph quadratic equations and inequalities.
9. Solve and create exponential equations
10. Analyze and graph exponential equations
 | 1. Differentiate geometric terminology and notation
2. Demonstrate inductive and deductive reasoning skills
3. Use proportions to determine similarity and solve for unknowns
4. Solve for unknown sides or angles of right triangles
5. Calculate and apply the area and volume formulas to real-life situations
 | 1. Determine functions and identify the domain and range of a function
2. Identify types of functions based on graphical representations including: linear, absolute value, quadratic, cubic, exponential, logarithmic, trigonometric, and rational functions
3. Solve 2 and 3 variable systems of equations
4. Simplify radical expressions with both real and imaginary numbers
5. Solve quadratic equations using different methods including: using graphs, taking roots, factoring, and using the quadratic formula
6. Perform basic operations on polynomials (addition, subtraction, multiplication, and division)
7. Solve equations with rational and whole number exponents
8. Identify an arithmetic or geometric sequence and calculate the sum of a series
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| **Pre-Calc** | **AP Calc** | **Statistics** |
| 1. Identify function transformations graphically and algebraically including: linear, absolute value, quadratic, cubic, radical, exponential, logarithmic, trigonometric, and rational functions
2. Solve various types of equations including: linear, absolute value, quadratic, cubic, radical, exponential, logarithmic, trigonometric, and rational functions
3. Perform operations using function notation given various representations
4. Be able to identify the trigonometric ratios using The Unit Circle
 | 1. Calculate limits of functions
2. Calculate derivatives and 2nd derivatives of functions
3. Calculate integrals of given functions over specified intervals
4. Understand and apply the Fundamental Theorem of Calculus
5. Create graphs of derivatives, 2nd derivatives, and integrals when given a function
6. Analyze the contextual meanings of graphs of functions, derivatives, and integrals
 | 1. Use the statistical problem-solving process to analyze data and interpret results of statistical studies
2. Draw and describe density curves
3. Calculate and interpret percentiles and z-scores within a data distribution
4. Use normal distributions to find percentiles and expected values
5. Find and interpret the regression line, including residuals, and use the line to make appropriate predictions
6. Analyze association between two variables and assess the strength of statistical evidence for a claim of causation
7. Recognize independence and use probability rules, Venn diagrams, two-way tables, and tree diagrams to find probabilities of events
8. Use counting techniques, permutations, and combinations to determine the number of outcomes and probabilities
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