

Math Level 5

Skills

Analytical

Contextual

Estimation and Computation (3)

NL.05.EC.01	Add, subtract, multiply, and divide rational and common irrational numbers (fraction, decimals, and percents).			
NL.05.EC.02	Perform the proper order of operations with signed numbers and with scientific notations.			
NL.05.EC.03	Solve problems using percent increase and decrease.			

Functions and Relationships (9)

NL.05.FR.01	Translate word problems into symbolic expressions, equations, or inequalities and solves for unknowns (including linear and quadratic).			
NL.05.FR.02	Create formulas from tables of ordered pairs.			
NL.05.FR.03	Select appropriate scales or graphing ranges for graphing data.			
NL.05.FR.04	Evaluate linear data with tables, graphs, and lines of best fit.			
NL.05.FR.05	Find solutions sets of equalities and inequalities using graphs and/or algebraic techniques			
NL.05.FR.06	Identify and predict the graphs of families of functions (i.e. linear, absolute value, inverse functions, quadratic, and exponential).			
NL.05.FR.07	Use the quadratic formula and graphing to determine intercepts of quadratic equations			
NL.05.FR.08	Define, identify, and evaluate functions			
NL.05.FR.09	Find and graph the inverse of a relation and/or function.			

Geometry (9)

NL.05.GO.01	Use equations to identify parallel, perpendicular, and oblique lines.			
NL.05.GO.02	Solve problems (with or without variables) using the relationships of angles formed by parallel, perpendicular and intersecting lines.			
NL.05.GO.03	Draw geometric lines using tools and label with proper notations (midpoint, angle bisector, parallel and perpendicular lines, $A B$, $S T$).			

NL.05.GO.04	Describe and graph the results of transformations including translations, rotations, reflections, and dilations on the coordinate plane.			
NL.05.GO.05	Apply the properties of equality and proportionality to solve problems involving congruent, similar, or symmetrical shapes.			
NL.05.GO.06	Calculate the distance and midpoint between two points on the coordinate plane using the formulas.			
NL.05.GO.07	Identify and use patterns from right triangles to solve application problems.			
NL.05.GO.08	Find the unknown dimensions of a right triangle using the Pythagorean Theorem or right triangle trigonometry			
NL.05.GO.09	Calculate the area and volume of complex figures.			
Measurement (3)				
NL.05.MS.01	Solve practical problems involving proportion and scale.			
NL.05.MS.02	Solve practical problems involving rate, time, and distance (i.e. travel, speed, mpg).			
NL.05.MS.03	Set up and solve rate, ratio, and proportion problems using unit multipliers and conversions (i.e. speed, unit pricing, etc.).			
Numeration (2)				
NL.05.NM.01	Translate between equivalent representations of the same number (i.e. fractions, decimals, percents, exponents, and scientific notation).			
NL.05.NM.02	Define the sets of rational and irrational numbers, identify common irrational numbers, and convert from exact to decimal representations of common irrational numbers			
Problem Solving (5)				
NL.05.PS.01	Use and describe math skills in science related applications, issues and careers.			
NL.05.PS.02	Represent the information and ideas in a problem using appropriate graphs and sketches.			
NL.05.PS.03	Create a spreadsheet (such as a table of function values) to display and evaluate information.			
NL.05.PS.04	Maintain a math notebook that expresses goals, successes, and areas for improvement and explains mathematical ideas, solutions, and methods.			

NL.05.PS.05	Use appropriate vocabulary for effective communication in mathematics.			
Statistics and Probability (4)				
NL.05.SP.01	Explain how statistics are manipulated to influence decisions.			
NL.05.SP.02	Evaluate whether or not inferences can be made given the parameters of the data.			
NL.05.SP.03	Sample and record data systematically (i.e. controlled conditions, proper labels).			
NL.05.SP.04	Analyze data using patterns or lines of best fit and use this information to predict future outcomes, influence			

PROPOSAL: New graduation requirement in Functions and Geometry ONLY (problem solving no longer included)