

## OCS 8<sup>th</sup> Grade Math Priority Standards

THE NUMBER SYSTEM	
NC.8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers and locate them approximately on a number line. Estimate the value of expressions involving: <ul style="list-style-type: none"> <li>• Square roots and cube roots to the tenths.</li> <li>• <math>\pi</math> to the hundredths</li> </ul>
EXPRESSIONS & EQUATIONS	
NC.8.EE.1	Develop and apply the properties of integer exponents to generate equivalent numerical expressions.
NC.8.EE.4	Perform multiplication and division with numbers expressed in scientific notation to solve real-world problems, including problems where both decimal and scientific notation are used.
NC.8.EE.7	Solve real-world and mathematical problems by writing and solving equations and inequalities in one variable. <ul style="list-style-type: none"> <li>• Recognize linear equations in one variable as having one solution, infinitely many solutions, or no solutions.</li> <li>• Solve linear equations and inequalities including multi-step equations and inequalities with the same variable on both sides.</li> </ul>
NC.8.EE.8	Analyze and solve a system of two linear equations in two variables in slope-intercept form. <ul style="list-style-type: none"> <li>• Understand that solutions to a system of two linear equations correspond to the points of intersection of their graphs because the point of intersection satisfies both equations simultaneously.</li> <li>• Solve real-world and mathematical problems leading to systems of linear equations by graphing the equations. Solve simple cases by inspection.</li> </ul>
FUNCTIONS	
NC.8.F.2	Compare properties of two linear functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
NC.8.F.4	Analyze functions that model linear relationships. <ul style="list-style-type: none"> <li>• Understand that a linear relationship can be generalized by <math>y = mx + b</math>.</li> <li>• Write an equation in slope-intercept form to model a linear relationship by determining the rate of change and the initial value, given at least two <math>(x, y)</math> values or a graph.</li> <li>• Construct a graph of a linear relationship given an equation in slope-intercept form.</li> <li>• Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of the slope and <math>y</math>-intercept of its graph or a table of values</li> </ul>
GEOMETRY	
NC.8.G.3	Describe the effect of dilations about the origin, translations, rotations about the origin in 90-degree increments, and reflections across the $x$ -axis and $y$ -axis on two-dimensional figures using coordinates.
NC.8.G.5	Use informal arguments to analyze angle relationships. <ul style="list-style-type: none"> <li>• Recognize relationships between interior and exterior angles of a triangle.</li> <li>• Recognize the relationships between the angles created when parallel lines are cut by a transversal.</li> <li>• Recognize the angle-angle criterion for similarity of triangles.</li> <li>• Solve real-world and mathematical problems involving angles.</li> </ul>
NC.8.G.7	Apply the Pythagorean Theorem and its converse to solve real-world and mathematical problems.
NC.8.G.9	Understand how the formulas for the volumes of cones, cylinders, and spheres are related and use the relationship to solve real-world and mathematical problems.
STATISTICS & PROBABILITY	
NC.8.SP.2	Model the relationship between bivariate quantitative data to: <ul style="list-style-type: none"> <li>• Informally fit a straight line for a scatter plot that suggests a linear association.</li> <li>• Informally assess the model fit by judging the closeness of the data points to the line.</li> </ul>
NC.8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate quantitative data, interpreting the slope and $y$ -intercept.