

**NYS Grade 6 to Grade 8 Mathematics Learning Standards**

**Grade 8  
The Number System**

		Standard Code	Current Standard	Revised Standard Recommendation for 2018-19	Additional Information/Notes
Clusters	A. Know that there are numbers that are not rational and approximate them by rational numbers.	8.NSA.1	1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.	1. Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.	The suggested language for this standard comes from the June 2010 Grade 6-8 Domain Progressions for Mathematics. This replacement provides a understanding of the difference between rational and irrational numbers.
		8.NS.A.2	2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., $\sqrt{2}$ ). For example, by truncating the decimal expansion of $\sqrt{2}$ (square root of 2), show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions, which includes $\sqrt{2}$ . For example, by truncating the decimal expansion of $\sqrt{2}$ (square root of 2), show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	Clarification

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Grade 8

Expressions and Equations (Inequalities)

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Clusters				

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**Grade 8**

**Expressions and Equations (Inequalities)**

		Standard Code	Current Standard	Revised Standard Recommendation for 2018-19	Additional Information/Notes
<b>Clusters</b>	A. Work with radicals and integer exponents.	8.EE.A.4	4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.	4. Perform operations with numbers expressed in scientific notation, including problems where both standard decimal form and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology.	Clarification
	B. Understand the connections between proportional relationships, lines and linear equations.	8.EE.B.5	5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of		



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**Grade 8  
Geometry**

		Standard Code	Current Standard	Revised Standard Recommendation for 2018-19	Additional Information/Notes
Clusters	A. Understand congruence and similarity using physical models, transparencies, or geometry software.	8.G.A.1	1. Verify experimentally the properties of rotations, reflections, and translations:	1. No Change	
		8.G.A.1a	1a. Lines are taken to lines, and line segments to line segments of the same length.	1a. No Change	
		8.G.A.1b	1b. Angles are taken to angles of the same measure.	1b. No Change	
		8.G.A.1c	1c. Parallel lines are taken to parallel lines.	1c. No Change	

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**Grade 8  
Geometry**

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Clusters

B. Understand and apply the Pythagorean Theorem.

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Grade 8  
Statistics and Probability

	Standard Code	Current Standard	Revised Standard Recommendation for 2018-19	Additional Information/Notes
<p style="text-align: center;">Clusters</p> <p style="text-align: center;">A. Investigate patterns of association in bivariate data.</p>	8.SP.A.1	1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	1.	