Power Standards

"I can" Checklist for students

Grade 7

☑	Required skills by the end of Grade 7
	I can compute unit rates of quantities associated with ratios of fractions (length, area, & other quantities)
	I can use proportional relationships to solve real-world problems
	I can simplify a rate, unit rate, and ratio by dividing
	I can compute unit rate as a complex fraction
	I can compare two ratios in a proportion
	I can determine whether two quantities are in a proportional relationship by testing for equivalent ratios by graphing on a coordinate plane
	I can determine whether two quantities are in a proportional relationship by testing for equivalent ratios in a table
	I can identify a constant relationship of unit rates in tables, graphs, equations, and diagrams
	I can identify a constant relationship of unit rates in verbal descriptions
	I can create proportional relationships from equations
	I can analyze a proportional equation and explain what each value means
	I can interpret a point (x,y) on the graph of a proportional relationship in terms of the situation using the points (0,0) and (1, r) where r is the unit rate
	I can explain a proportional situation using points on a graph
	I can calculate simple interest, tax, markups, markdowns, gratuities, commissions, and fees
	I can calculate percent increase, decrease, and percent error
	I can solve multi-step ratio and percent problems using proportional relationships
	I can justify multi-step ratio and percent in real life situations
	I can identify or describe errors to given multi-step problems and present corrected solutions
	I can add and subtract rational numbers (integers, fractions, and decimals)
	I can explain that each rational number has an opposite that adds to zero and describe real-world situations in which opposite quantities add together to equal zero
	I can compute rational numbers
	I can use a number line to show that the 1st addend (p) and the sum (p+q) represent location and the absolute value of the 2nd addend (q) represents distance traveled
	I can use a number line to demonstrate that the sum of a number and its opposite is zero
	I can use real-world context to describe the sums of rational numbers (the result should indicate location and not the total distance)
	I can create real-world context to explain that the distance between two numbers is the absolute value of the difference between those numbers
	I can explain that subtraction of rational numbers as the additive inverse, $p - q = p + (-q)$
	I can use a number line to demonstrate that the distance between two numbers is the absolute value of the difference between those numbers
	I can create real-world context to explain that the distance between two numbers is the absolute value of the difference between those numbers
	I can identify properties of addition and subtraction
	I can apply addition/subtraction properties to strategies to solve mathematical problems
	I can multiply and divide rational numbers (integers, fractions, and decimals)
	I can use the multiplication rules for integers and apply them to multiplying decimals and fractions
	I can use real-world contexts to describe the product of rational numbers
	I can interpret products of rational numbers in real world contexts
	I can create or recognize an equivalent mathematical expression when given an expression by using the distributive property or other properties of operations
	I can identify equivalent expressions when given two or more expressions
	I can use the division rules for integers and apply them to dividing decimals and fractions

	I can explain that integers can be divided provided that the divisor is not zero
	I can explain and recognize that a negative fraction can be written as a negative numerator and positive denominator or as a positive numerator and negative denominator
	I can interpret quotients of rational numbers in real world contexts
	I can create an equivalent mathematical expression when given an expression by using the properties of operations
	I can identify equivalent expressions when given two or more expressions
	I can recognize and identify properties of multiplication and division
	I can apply multiplication/division properties to a given situation
	I can convert rational numbers to decimal numbers
	I can recognize a terminating or repeating decimal
	I can solve mathematical and real-world problems involving four operations with rational numbers and justify the steps taken
	I can simplify algebraic expressions by using distributive property
	I can apply properties of real numbers (add, subtract, expand linear expressions, and factor)
	I can simplify algebraic expressions by combining like terms
	I can create a new equivalent expression when given a factored expression and a fully expanded expression
	I can rewrite an expression in different forms
	I can explain that an expression written in different forms can shed light on a problem
	I can describe the relationship between different quantities
	I can solve mathematical problems posed with positive and negative rational numbers in any form
	I can apply properties of operations to calculate two-step problems with numbers in any form
	I can fluently solve multi-step, real-world problems posed with positive and negative rational numbers
	I can apply properties of operations to calculate multistep problems with numbers in any form
	I can assess and justify the reasonableness of answers using mental computation and estimation strategies
	I can solve simple equations
	I can fluently solve two-step linear equations and word problems of the form $px+ q = r$ and $p(x+q) = r$, where p, q, and r are specific rational numbers
	I can compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach
	I can solve simple inequalities and graph their solution sets on a number line
	I can solve two step linear inequalities and word problems of the form $px+ q > r$ and $px+q < r$, where p, q, and r are specific rational numbers

Mathematical Practices for ALL grade levels

☑	**I do statement**	**Mathematical Practice**
	I do try different strategies when I get stuck and never quit!	Make sense of problems and persevere in solving them.
	I do think about my answer to see if it makes sense.	Reason abstractly and quantitatively.
	I do explain my thinking using math vocabulary.	Construct viable arguments and critique the reasoning of others.
	I do draw diagrams and pictures that help me solve problems.	Model with mathematics.
	I do use the most appropriate tools (rulers, number lines, ten-frames, calculators, etc.) when solving problems	Use appropriate tools strategically.
	I do check my work when I finish.	Attend to precision.
	I do organize my work to allow myself to make valuable observations.	Look for and make use of structure.
	I do look for patterns and apply these patterns to solve problems.	Look for and express regularity in repeated reasoning.