

## Oklahoma Mathematics Standards Alignment to:

- the Common Core State Standards (CCSS)
- the National Essential Skills Study (NESS)

Please note that the National Essential Skills Study (NESS) is only aligned to the Oklahoma Algebra I standards. The NESS descriptors are not intentionally aligned to the Common Core State Standards (CCSS) or their subparts. Any alignment between NESS descriptors and CCSS is coincidental.

Oklahoma Mathematics Priority Academic Student Skills Process Standards/Objectives Algebra I	Mathematics Domains Clusters Common Core State Standards High School	National Essential Skills Study (NESS) National Rankings	
		Rank	
<b>Standard 1: Number Sense and Algebraic Operations - The student will use expressions and equations to model number relationships.</b>			
1. Equations and Formulas <ol style="list-style-type: none"> <li>a. Translate word phrases and sentences into expressions and equations and vice versa.</li> <li>b. Solve literal equations involving several variables for one variable in terms of the others.</li> <li>c. Use the formulas from measurable attributes of geometric models (perimeter, circumference, area and volume), science, and statistics to solve problems within an algebraic context.</li> <li>d. Solve two-step and three-step problems using concepts such as rules of exponents, rate, distance, ratio and proportion, and percent.</li> </ol>	<u><b>Algebra: Creating Equations</b></u> <b>Create equations that describe numbers or relationships.</b> <ol style="list-style-type: none"> <li>1. Create equations and inequalities in one variable and use them to solve problems. <i>Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</i></li> <li>4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. <i>For example, rearrange Ohm's law <math>V = IR</math> to highlight resistance <math>R</math>.</i></li> </ol> <u><b>Algebra: Reasoning with Equations &amp; Inequalities</b></u> <b>Solve equations and inequalities in one variable.</b> <ol style="list-style-type: none"> <li>3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</li> </ol> <u><b>Geometry: Geometric Measurement &amp; Dimensions</b></u> <b>Explain volume formulas and use them to solve problems.</b> <ol style="list-style-type: none"> <li>1. Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. <i>Use dissection arguments, Cavalieri's principle, and informal limit arguments.</i></li> <li>3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.</li> </ol>	M3	Use proportional reasoning to solve real-world problems.
		M7	Simplify and solve algebraic equations by identifying and using the correct order of operations and techniques necessary to carry out the solution.
		M9	Compute the perimeter and area of common two-dimensional figures.
		M11	Apply variables in expressions and equations to solve problems (i.e., write mathematical equations for given situation, create a mathematical model to understand the relationships between variables, or make connections between the structures of mathematically abstract concepts and the real world).
		M18	Understand the properties of circles (radius, arc, diameter, chord, secant, and tangent) and apply circle quantities (lengths of line segments, angle measure within a circle, circumference, and area) in problem-solving situations.

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<b>Standard 1.1.</b> <i>(Continued from previous page)</i>	<i>(Continued from previous page)</i> <b>Statistics &amp; Probability: Interpreting Categorical &amp; Quantitative Data</b> <b>Summarize, represent and interpret data on a single count or measurement variable.</b> 2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. 4. Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	<b>Rank</b>	
		M26	Know the classification and properties of three-dimensional figures (prisms, rectangular solids, pyramids, right circular cylinders, cones, and spheres) and be able to compute the volume and surface area of common solids.
M31	Understand and apply measures of dispersion (range, mean deviation, variance, and standard deviation).		