

Below are the key skills that students should possess by the end of the first semester of Algebra 1. They are based on the Common Core State Standards and are written in student-friendly terms. The learning targets are grouped by unit of study, and the corresponding state standards and textbook resources are listed. Bold lines indicate the end of a quarter.

Power Standard	#	Learning Target	CCSSM	Textbook Resource
Introduction to Functions and Graphs	1A	I can describe a set of numbers in a variety of ways.		P.1
	1B	I can identify functions from data tables, graphs, and descriptions of set relations.		1.2
	1C	I can identify increasing and decreasing functions and intervals.		1.2
	1D	I can determine the average rate of change for a function.		2.1
	1E	I can compute the difference quotient for a given function.		-----
Linear and Quadratic Functions and Equations	2A	I can use multiple transformations to determine the graph from an equation or vice versa for linear and quadratic functions.		1.5, 2.1
	2B	I can identify key features of a parabola from its vertex form equation, and by converting a quadratic function from standard form to vertex form.		2.1
	2C	I can solve quadratic equations by factoring, quadratic formula, and completing the square.		2.5
	2D	I can define, interpret, use piecewise functions in function notation and as a graph.		1.3
	2E	I can identify linear and quadratic correlations in data and use technology to define an appropriate linear or quadratic regression function.		1.6
Nonlinear Functions and Equations	3A	I can represent and apply power functions, with integer and rational powers, as equations and graphs.		2.2
	3B	I can identify the extrema, symmetry, and zeros of polynomial functions and use them to graph and model with these functions.		2.3-2.4
	3C	I can describe and apply the Fundamental Theorem of Algebra to find real and complex solutions of polynomial equations.		2.6
	3D	I can graph rational functions and identify their asymptotes.		2.7
Exponentials, Logistics, and Logarithms	4A	I can graph and describe transformations for exponential and logarithmic functions.		3.1-3.3
	4B	I can solve problems involving exponential or logistic functions.		3.3-3.5
	4C	I can solve problems involving logarithmic functions.		3.3-3.4
Systems of Equations and Inequalities	5A	I can solve and apply systems of linear and nonlinear equations in two variables.		7.1
	5B	I can solve and apply systems of linear equations in three variables using substitution, elimination, and matrices.		7.2-7.3
	5C	I can solve and apply systems of nonlinear inequalities in two variables.		7.5
Conic Sections	6A	I can write the equation for and graph circles, ellipses, and hyperbolas.		

Below are the key skills that students should possess by the end of the second semester of Algebra 1. They are based on the Common Core State Standards and are written in student-friendly terms. The learning targets are grouped by unit of study, and the corresponding state standards and textbook resources are listed. Bold lines indicate the end of a quarter.

Power Standard	#	Learning Target	CCSSM	Textbook Resource
Angles and Radian Measure	7A	I can accurately use radian measures to define angles and find arc lengths.		4.1
	7B	I can solve problems by applying the 6 trigonometric functions to the sides of a right triangle.		4.2
	7C	I can find the values of the Sine and Cosine on the 16 point Unit circle and apply them to solve problems involving all 6 trigonometric functions.		4.3
	7D	I can solve problems using the Law of Sines and the Law of Cosines.		5.5-5.6
Graphs of Trigonometric Functions	8A	I can create and use graphs of transformations of sine and cosine functions to solve problems.		4.4
	8B	I can create and use the graphs of transformations of non-sinusoid trig. functions (csc, sec, tan, cot) to solve problems		4.5
	8C	I can create and use graphs of transformations of composite trigonometric functions to solve problems.		4.6
	8D	I can create and use graphs of transformations of inverse trigonometric functions to solve problems.		4.7
Analytic Trigonometry	9A	I can use and apply fundamental trigonometric identities.		
	9B	I can prove trigonometric identities.		
	9C	I can use and apply sum and difference identities.		
	9D	I can use and apply multiple angle identities.		
Vectors, and Parametric and Polar Graphs	10A	I can represent, model with, and perform operations on vector quantities.		6.1
	10B	I can apply the dot product of vectors to solve problems.		6.2
	10C	I can create, interpret, and apply parametric equations.		6.3
	10D	I can locate points, create graphs, and analyze graphs in the polar coordinate system.		6.4-6.5