

Trigonometry – Crosswalk (Summary of Revisions): 2016 *Mathematics Standards of Learning and Curriculum Framework*

Additions (2016 SOL)	Deletions from Trigonometry (2009 SOL)
<ul style="list-style-type: none"> T.9 – Solve problems involving arc length and area of sectors in circles using radians and degrees, and linear and angular velocity 	
Parameter Changes/Clarifications (2016 SOL)	Moves within Trigonometry (2009 SOL to 2016 SOL)
<ul style="list-style-type: none"> Many of the revisions to the standards and curriculum framework for Trigonometry focused on simplifying the language of the standards. Language included in standards that provided specific examples or situations, was often moved to the Essential Knowledge and Skills or Understanding the Standard sections of the Curriculum Framework. 	<ul style="list-style-type: none"> T.1 – Define circular trigonometric functions [Moved to T.2 EKS] T.2 – [Combined with and into T.1] T.2 – Determine trigonometric function values [Moved to T.1 EKS] T.3 – [Moved to T.2] T.4 – [Moved to T.7] T.6 – [Moved to T.3] T.7 – [Moved to T.4] T.8 – [Moved to T.6] T.9 – [Moved to T.8]

EKS = Essential Knowledge and Skills, referring to the column on the far right of the Curriculum Framework

EU = Essential Understandings, referring to the column on the far left of the Curriculum Framework

Comparison of Mathematics Standards of Learning – 2009 to 2016

2009 SOL		2016 SOL	
		Triangular and Circular Trigonometric Functions	
T.1	The student, given a point other than the origin on the terminal side of an angle, will use the definitions of the six trigonometric functions to find the sine, cosine, tangent, cotangent, secant, and cosecant of the angle in standard position. Trigonometric functions defined on the unit circle will be related to trigonometric functions defined in right triangles.	T.1	The student, given a point on the terminal side of an angle in standard position, or the value of the trigonometric function of the angle, will determine the sine, cosine, tangent, cotangent, secant, and cosecant of the angle.
T.2	The student, given the value of one trigonometric function, will find the values of the other trigonometric functions, using the definitions and properties of the trigonometric functions. [Combined with and into T.1]		
T.3	The student will find, without the aid of a calculator, the values of the trigonometric functions of the special angles and their related angles as found in the unit circle. This will include converting angle measures from radians to degrees and vice versa.	T.2	The student will develop and apply the properties of the unit circle in degrees and radians.
		Graphs of Trigonometric Functions	
		T.3	The student, given one of the six trigonometric functions in standard form, will a) state the domain and the range of the function; b) determine the amplitude, period, phase shift, vertical shift, and asymptotes; c) sketch the graph of the function by using transformations for at least a two-period interval; and d) investigate the effect of changing the parameters in a trigonometric function on the graph of the function. [Moved from T.6]
		T.4	The student will graph the six inverse trigonometric functions. [Moved from T.7]
T.4	The student will find, with the aid of a calculator, the value of any trigonometric function and inverse trigonometric function. [Moved to T.7]		
		Equations and Identities	
T.5	The student will verify basic trigonometric identities and make substitutions, using the basic identities.	T.5	The student will verify basic trigonometric identities and make substitutions, using the basic identities.

2009 SOL		2016 SOL	
T.6	The student, given one of the six trigonometric functions in standard form, will a) state the domain and the range of the function; b) determine the amplitude, period, phase shift, vertical shift, and asymptotes; c) sketch the graph of the function by using transformations for at least a two-period interval; and d) investigate the effect of changing the parameters in a trigonometric function on the graph of the function. [Moved to T.3]		
T.7	The student will identify the domain and range of the inverse trigonometric functions and recognize the graphs of these functions. Restrictions on the domains of the inverse trigonometric functions will be included. [Moved to T.4]		
T.8	The student will solve trigonometric equations that include both infinite solutions and restricted domain solutions and solve basic trigonometric inequalities.	T.6	The student will solve trigonometric equations and inequalities.
		T.7	The student will determine the value of any trigonometric function and inverse trigonometric function. [Moved from T.4]
T.9	The student will identify, create, and solve real-world problems involving triangles. Techniques will include using the trigonometric functions, the Pythagorean Theorem, the Law of Sines, and the Law of Cosines.	Applications of Trigonometric Functions	
		T.8	The student will create and solve practical problems involving triangles.
		T.9	The student will solve problems, including practical problems, involving a) arc length and area of sectors in circles using radians and degrees; and b) linear and angular velocity.