Unit 8: Trigonometry and the Unit Circle

CCSS	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Radian measure in a unit circle (F.TF.1)	Can extend thinking beyond the standard, including tasks that may involve one of the following:	**Explain** and use the relationship between radian measures and degrees/arc lengths to solve problems	**Use the relationship** between radian measures and degrees/arc lengths to solve problems	**Convert** between radians and degrees	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Trigonometric functions with real number domain (F.TF.2) Special triangles (F.TF.3)	• Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Use special triangles to determine **and explain** the values of sine, cosine, tangent for **anything between 0 and 2π** on the unit circle	Use special right triangles to determine the values of sine, cosine, tangent for **0**, π/6, π/4, π/3 and **π/2** on the unit circle	Use special right triangles to determine the values of sine, cosine and tangent **for π/6, π/4 and π/3** on the unit circle	
Symmetry and periodicity (F.TF.4)		Use the unit circle to explain symmetry (odd and even) of **the six** trigonometric functions. Use the periodicity of the unit circle to explain the repeated cycle of the graphs of **all six** trigonometric functions.	Use the unit circle to explain symmetry (odd and even) of the sine, cosine, **and tangent** functions. Use the periodicity of the unit circle to explain the repeated cycle of the graphs of sine, cosine, **and tangent** functions.	Use the unit circle to explain symmetry (odd and even) of the **sine and cosine** functions. Use the periodicity of the unit circle to explain the repeated cycle of the graphs of **sine and cosine** functions.	
Pythagorean Identity (F.TF.8)		**Prove** the Pythagorean identity $sin^2(\theta) + cos^2(\theta) = 1$ and use it to find $sin(\theta)$, $cos(\theta)$, and $tan(\theta)$	Use the Pythagorean identity $sin^2(\theta) + cos^2(\theta) = 1$ to find $sin(\theta)$, $cos(\theta)$, **and** $tan(\theta)$	**Use** the Pythagorean identity $sin^2(\theta) + cos^2(\theta) = 1$ to find $sin(\theta)$, $cos(\theta)$, **or** $tan(\theta)$	