

Prove and apply trigonometric identities. Limit θ to angles between 0 and 90 degrees. Connect with the Pythagorean Theorem and the distance formula (F.TF.8)	
Standard II.F.TF.8: Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$, and the quadrant of the angle.	
Concepts and Skills to Master	
<ul style="list-style-type: none"> • Prove $\sin^2(\theta) + \cos^2(\theta) = 1$ for right triangles in the first quadrant. • Given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ for $0 < \theta < 90$ find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$. • Recognize the Pythagorean identity as the statement of the ratio relationship of corresponding sides of similar right triangles using the Pythagorean Theorem (Connect to II.G.SRT.2 and II.G.SRT.6). 	
Related Standards: Current Course	Related Standards: Future Courses
II.G.SRT.2 , II.G.SRT.3 , II.G.SRT.6 , II.G.SRT.7 , II.G.SRT.8	III.F.TF.2 , III.F.TF.3 , P.N.CN.4, P.N.CN.5, P.N.CN.6, P.N.CN.10

Support for Teachers

Critical Background Knowledge (Access Background Knowledge)
<ul style="list-style-type: none"> • Apply the Pythagorean Theorem to determine unknown side lengths (8.G.7) • Define trigonometric ratios (II.G.SRT.6)
Academic Vocabulary
sine, cosine, tangent
Resources
Curriculum Resources : http://www.uen.org/core/core.do?courseNum=5620#71550