Core Content

Cluster Title: Similarity, Right Triangles, and Trigonometry
Standard: Prove trigonometric identities using definitions, the Pythagorean Theorem, or other relationships and use the relationships to solve problems.
Concepts and Skills to Master
- Prove trigonometric identities based on the Pythagorean Theorem.   - Simplify trigonometric expressions and solve trigonometric equations using identities.   - Justify half angle and double angle formulas for trigonometric values.

Supports for Teachers

Critical Background Knowledge	
- Pythagorean Theorem - Trigonometric definitions	
Academic Vocabulary	
Identity, Pythagorean Theorem	
Suggested Instructional Strategies	**Resources**
Lead students from informal arguments of geometric representations to formal two-column and algebraic proofs.	Algebraic Proofs: http://www.themathpage.com/atrig/double-proof.htm Geometric Proofs: http://www.jesystems.com/mathisfun/desc_trigonometry.asp
Sample Formative Assessment Tasks	
Skill-based Task Prove: $$\sec^2\theta + \csc^2\theta = \frac{1}{\left(\sin^2\theta\right)\left(\cos^2\theta\right)}$$	**Problem Task** Develop a formula for sin (x+y+z).

II.H.trigonometric identities