Geometry – Unit 4: Triangles

Phoenixville Area School District

Stage 1 Desired Results					
PA Core Standards:	Transfer				
CC.2.3.HS.A.13 Analyze relationships between two-dimensional and three-dimensional objects. CC.2.3.HS.A.14 Apply geometric concepts to model and solve real- world problems.	 TRANSFER GOALS Students will be able to independently use their learning to Problem-Solving: Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems and provide evidence to support response. Mathematical Vocabulary: Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale. Reasoning: Demonstrate mathematical resilience and conceptual understanding through the use of vocabulary, written expression, graphical representation, and alternate strategies. 				
CC.2.2.HS.C.9 Prove	Meaning				
the Pythagorean identity and use it to calculate trigonometric ratios. CC.2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles. CC.2.3.8.A.3 Understand and apply the Pythagorean theorem to solve problems	 UNDERSTANDINGS Students will understand that The accurate measurement of space is determined by the ability to visualize the object/problem situation and apply an appropriate algorithm. Mathematicians think about reasonableness throughout the problem-solving process. Mathematicians think about reasonableness throughout the problem-solving process. Trigonometry is rooted in ratios within the right triangle. 	 ESSENTIAL QUESTIONS Students will keep considering How are spatial relationships, including shape and dimension, used to draw, construct, model and represent real situations or solve problems? How do figures/quantities/numbers/ operations relate to one another? Have I represented the relationships between the quantities appropriately? How do I use the properties of right triangles for indirect measurement? 			

Knowledge and Skills Acquisition			
 KNOWLEDGE Students will know The relationships between the interior and exterior angles of triangles How to identify corresponding parts of congruent triangles and prove triangles congruent How special segments and points are related to triangles The relationships between the sides and angles of triangles How to use the Pythagorean theorem to write and/or solve problems involving right triangles How to use trigonometric ratios to write and/or solve problems involving right triangles 	 SKILLS Students will be skilled at Identifying and using the properties of triangles while solving for missing parts of a triangle with a partner. Proving and using the properties of congruent triangles as demonstrated through completion of proofs. Finding missing angles and sides of right triangles given various real-world scenarios. 		
 VOCABULARY Altitude Median Perpendicular Bisector Exterior angle Corresponding Parts Base Angles Angle of Depression/Elevation Trigonometry Sine/Cosine/Tangent 			

Stage 2 – Evidence				
Code A/M/T	Evaluative Criteria	Assessment Evidence		
N/A	N/A	RFORMANCE TASK(S) Idents will demonstrate understanding (meaning making and transfer) through complex formance by	Differentiation Considerations:	
Acquisition Meaning Making Transfer	Uses mathematics vocabulary and notation concisely and correctly. Chooses effective strategy/strategies for solving the problem. Explains one's reasoning efficiently using mathematics, words, or both. All representations are clear and labeled accurately. Solution is clearly identified; appropriate units are provided (<i>if</i> <i>applicable</i>).	HER EVIDENCE it Test A Multiple Choice Open-Ended Response Two-Column Proof Extended Response it Test B Multiple Choice Open-Ended Response Two-Column Proof Extended Response	Differentiation Considerations:	