The criteria at each level of proficiency are inclusive of those described at the prior levels.

Outcomes	1	2	3	4
Number				
Demonstrate an understanding of perfect squares and non-perfect squares and determine square roots. (N1, N2, SS1)	Model concretely or pictorially that the side length of a non-perfect square can only be approximated Determine the area of a square Determine factors of a whole number	Approximate square roots of non-perfect squares using technology Determine the square of a number and the square root of a perfect square using factors or concrete or pictorial representations Solve simple problems involving squares and square roots	Recalls squares and square roots of familiar numbers as a result of developing strategies and understanding number relationships Estimate the square roots of non-perfect squares by identifying benchmarks Solve a variety of problems including application of squares and square roots to the Pythagorean theorem	Estimate, with precision, square roots of numbers that are non-perfect squares and justify the reasonableness of the estimate Solve complex problems including application of squares and square roots to the Pythagorean theorem using flexible and efficient strategies including mental math and number fact recall

The criteria at each level of proficiency are inclusive of those described at the prior levels.

Outcomes	1	2	3	4
Shape and Space				
Demonstrate an understanding of the Pythagorean Theorem. (SS1, N1, N2)	Identify and label the legs and hypotenuse of a right triangle Determine the area of a square Determine squares and square roots with or without technology	Model the Pythagorean theorem concretely or pictorially Solve for any missing side of a right triangle involving familiar squares and square roots, using a concrete or pictorial approach	Solve for any missing side of a right triangle using a symbolic approach Use the Pythagorean theorem to justify whether or not a triangle is right-angled and identify Pythagorean triples Solve a variety of problems involving application of the Pythagorean theorem Identify and correct unreasonable solutions	Solve complex problems involving application of the Pythagorean theorem using flexible and efficient strategies including mental math and estimation Apply knowledge of familiar Pythagorean triples and their multiples to solve problems