Trigonometry
6.1 Investigate right triangle trigonometry

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Understand side ratios (G.SRT.6) **Use sine and cosine (G.SRT.7)**	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Use properties of similar right triangles to **form the definitions** of ● sine ● cosine ● tangent <u>Explain and use the relationship between the sine of an acute angle and the cosine of its complement.</u>	<u>**Use side ratios**</u> to prove angles are congruent between triangles leading to similar triangles.	<u>**Find the trig ratios**</u> of a given right triangle.	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Use Trig Ratios (G.SRT.8)		Use trigonometric ratios and the Pythagorean Theorem in applied problems to find ● unknown sides ● unknown angles	**Given an image**, use trigonometric ratios **and the Pythagorean Theorem in applied problems** to find ● unknown sides ● unknown angles	**Given an image**, solve right triangles using trigonometric ratios for: ● unknown sides ● unknown angles	

G.SRT.6   Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

G.SRT.7   Explain and use the relationship between the sine and cosine of complementary angles.

G.SRT.8   Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. ★

Trigonometry
6.2 Solve applied problems involving trigonometry (Honors Only)

	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
G.SRT.10, G.SRT.11, G.MG.3	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	**Prove the Law of Sines and the Law of Cosines,** and apply them to find unknown measurements in oblique triangles **and interpret solutions in context of real-world situations**	**Apply the Law of Sines and the Law of Cosines to find unknown measurements in oblique triangles**	Identify whether the Law of Sines or the Law of Cosines should be applied to an oblique triangle to find unknown measurements, and if the ambiguous case applies to the triangle.	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1

G.SRT.10 (+) Prove the Laws of Sines and Cosines and use them to solve problems.

G.SRT.11 (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).

G.MG.A.3   Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*