Gulfport School District
HIGH SCHOOL PACING GUIDE
TRIGONOMETRY

QTR	COMPETENCY/OBJECTIVES
	NUMBER AND OPERATIONS
	1. Represent and compare numbers in various forms and perform operations.
1.1	a. Perform conversions across measurement systems including degree to radian measurements of angles, radian measurements to degree measurements of angles, polar to rectangular coordinates, rectangular to polar coordinates, rectangular to trigonometric forms of complex numbers, and trigonometric to rectangular forms of complex numbers. (DOK 1)
1.2	b. Determine the product and quotient of complex numbers in trigonometric form. (DOK 1)
1.2	c. Apply De Moivre's theorem to determine the *n*th roots of a complex number given in polar form. (DOK 1)
1.2	d. Explain the addition formulas for sine and cosine and use them to prove (or simplify) other trigonometric functions. (DOK 2)
	2. Investigate basic concepts of vectors and operations with vectors.
1.2	a. Recognize and draw different notations for vectors to represent a quantity. (DOK 1)
1.2	b. Analyze properties of vectors and the effects of these properties on operations with vectors. (DOK 2)
1.2	c. Apply the limit definition of *e*. (DOK 2)
	ALGEBRA
	3. Compare and produce equivalent forms of trigonometric expressions and solve trigonometric equations.
1.1	a. Determine the domain and range of trigonometric functions. (DOK 2)
1.1-1.2	b. Identify and apply trigonometric identities. (DOK 2)
1.1	c. Verify identities analytically and with technology. (DOK 2)
1.2	d. Solve trigonometric equations in real-world situations or mathematical settings. (DOK 2)
	GEOMETRY
	4. Use geometric modeling to analyze trigonometric relationships.
1.1	a. Use the unit circle to solve real-world applications and problems in mathematical settings. (DOK 3)
1.1	b. Apply the six trigonometric functions in relation to a right triangle to solve real-world applications and problems in mathematical settings. (DOK 3)
1.1	c. Find exact values of trigonometric functions of special angles in the unit circle. (DOK 1)

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QTR	COMPETENCY/OBJECTIVES
	GEOMETRY (continued)
	4. Use geometric modeling to analyze trigonometric relationships.
1.1	d. Recognize, sketch, and interpret graphs of the six trigonometric functions and include restrictions on their domain. (DOK 2)
1.2	e. Model and apply right triangle formulas, Law of Sines, and Law of Cosines to problem-solving situations. (DOK 2)
1.2	f. Use the graph of polar coordinates and associated equations to model real-world applications and mathematical situations. (DOK 2)
	MEASUREMENT
	5. Select and apply formulas to determine length and area.
1.1	a. Find arc length and sector area of a circle. (DOK 2)
1.1	b. Using graphs of functions of the form $f(t) = A \sin(Bt + C)$ or $f(t) = A \cos(Bt + C)$, interpret A, B, C in terms of amplitude, frequency, period, and phase shift. (DOK 2)
1.2	c. Given one angle and the measures of two adjacent sides, determine the area of a triangle and explain the process used. (DOK 2)

1.1 indicates the first 4.5 weeks of the 9 weeks course.
1.2 indicates the second 4.5 weeks of the 9 weeks course.