Trigonometry **Pacing Guide**

Days	Key Topics	CA Standards Addressed * Bold Standards should be mastered by the end of this unit. Others are addressed, but not yet mastered. * An asterisk indicates a key standard.
1 & 2	**Class Business**	
3 & 4	**Benchmark #1**	
5-10	**1: The Skills You'll Need** Breaking down square roots Rationalizing Denominators Multiplying & Dividing Rational Expressions Adding & Subtracting Rational Expressions	* Students simplify square roots. * Students rationalize denominators using square roots and conjugates. * Students multiply, divide, and simplify rational expressions. * Students find common denominators of rational expressions. * Students add, subtract, and simplify rational expressions.
11-39 * This is extra long because students really struggled	**2: Angle Measures & Trig Functions** Angles (degrees/radians) Sine, Cosine, Tangent, Cotangent, Secant, Cosecant	**1.0**: Students understand the notion of angle and how to measure it, in both degrees and radians. **1.0:** Students can convert between degrees & radians. * Students understand the definitions of the six trigonometric ratios. 2.0: Students know the definition of sine and cosine as y- and x-coordinates of points on the unit circle. **3.0:** Students know the identity $\cos^2(x) + \sin^2(x) = 1$. 5.0 & 6.0**:** Students know the definitions of the tangent, cotangent, secant, and cosecant functions. 9.0**:** Students compute, by hand, the values of the trigonometric functions at standard points.
40-67	**3: Trigonometric Graphs** Graphs of the six trig functions (Parent & transformations)	**2.0, 5.0, 6.0:** Students can graph sine, cosine, tangent, cosecant, secant, and cotangent. **4.0:** Students graph functions of the form f(t) = Asin(Bt + C) or f(t) = Acos(Bt + C) and interpret A, B, and C in terms of amplitude, frequency, period, and phase shift. 19.0: Students apply the graphs of sinusoidal functions to real world situations.
68, 69	**Benchmark #2**	

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70-80 Review 1st Semester Final 95-108	**4: Analytic Trigonometry** Inverse Trig Functions Identities Solving Trig Equations Right Triangle Applications	**8.0**: Students know the definitions of the inverse trigonometric functions and can graph the functions. 9.0: Students compute, by hand, the values of the inverse trigonometric functions at standard points. **10.0**: Students demonstrate an understanding of the addition formulas for sines and cosines and their proofs and can use those formulas to prove and/or simplify other trigonometric identities. **11.0**: Students demonstrate an understanding of half-angle and double-angle formulas for sines and cosines and can use those formulas to prove and/or simplify other trigonometric identities. * Students use identities to solve trigonometric equations. **12.0**: Students use trigonometry to determine unknown sides or angles in right triangles. 19.0: Students use trigonometry in applications of right triangles (includes word problems).
109-118	**5: Oblique Triangles** Law of Sines Law of Cosines Area of SAS Triangles (Heron's Formula) Oblique Triangle Applications	**13.0**: Students know the law of sines and he law of cosines and apply those laws to solve problems. **14.0**: Students determine the area of a triangle, given one angle and the two adjacent sides. **19.0**: Students use trigonometry in applications of oblique triangles (includes word problems).
119-123	**Summative HS Math review & Simple Harmonic Motion Lab**	
124-127 **Benchmark #3:** 128-129 130-147	**6: Polar Coordinates & Complex Numbers** Polar/Rectangular coordinates & equations Polar Graphs Complex Numbers Complex Roots (DeMoivre's Theorem)	**15.0**: Students are familiar with polar coordinates. In particular, they can determine polar coordinates of a point given in rectangular coordinates and vice versa. **16.0**: Students represent equations given in rectangular coordinates in terms of polar coordinates. **17.0**: Students are familiar with complex numbers. They can represent a complex number in polar form and know how to multiply complex numbers in their polar form. **18.0**: Students know DeMoivre's theorem and can give *n*th roots of a complex number given in polar form.
148-180	**CST Review** **Final Project** **Review for Final** **Final Exam**	**All Trig Standards**