Math 4 Honors

**Unit 4 Learning Goals**

**“Trigonometric Functions & Equations”**

Lesson 4-1: *Graphs of Identities*

* I can factor polynomials and trigonometric functions when necessary and appropriate.
* I can use and define the six trigonometric functions: sine, cosine, tangent, cosecant, secant, and cotangent.
* I can evaluate trigonometric functions without a calculator.
* I can use the fundamental trigonometric identities to simplify expressions and verify equivalences.

Lesson 4-2: *Proving Trigonometric Identities*

* I can use the fundamental trigonometric identities to simplify expressions and verify equivalences.
* I can solve trigonometric equations algebraically, including equations that involve factoring.

Lesson 4-3: *Sum and Difference Formulas for Cosine*

* I can, without a calculator, use trigonometric identities such as angle addition/subtraction and double angle formulas, to express values of trigonometric functions in terms of rational numbers and radicals.

Lesson 4-4: *Sum & Difference Formulas for Sine and Tangent*

* I can, without a calculator, use trigonometric identities such as angle addition/subtraction and double angle formulas, to express values of trigonometric functions in terms of rational numbers and radicals.

Lesson 4-5: *Double Angle Formulas*

* I can, without a calculator, use trigonometric identities such as angle addition/subtraction and double angle formulas, to express values of trigonometric functions in terms of rational numbers and radicals.

Lesson 4-6: *Trigonometric Form of Complex Numbers*

* Given a complex number in standard form or rectangular form, I can re-express it in trigonometric or polar form and vice versa.
* I can find the product and quotient of two complex numbers expressed in trigonometric form.

Lesson 4-7: *DeMoivre’s Theorem and the nth Roots Theorem*

* I use can use DeMoivre’s Theorem to calculate powers of complex numbers.
* I can find *n*th roots of complex numbers using the Complex *nt*h Roots Theorem.