Material Covered

- Graphing all six trig functions
- Dealing with changes in amplitude, period, phase shift, and vertical translation
- Graphing sums and differences of functions
- Simplifying Trigonometric functions
- Verifying trigonometric identities

Textbook Reference

- Chapter 2
- Chapter 3, sections 1, 2, 3, and 4.

Important Concepts

- Graphing a trig function
  - The three "basic" graphs
  - Changes in location and shape
  - Combining multiple functions
- Trigonometric Identities
  - Simplifying an expression
  - Verifying two expressions are equal
  - Applying known identities (All of these are tools you may need to use, so you should know or be able to drive all of them)
    - Reciprocal identities for all 6 trig functions
    - Pythagorean identities in all 3 cases
    - Sum and difference identities for sine, cosine, and tangent.

Important Skills

- Be able graph any trig function with any or all of the possible changes.
  - Change in amplitude/vertical stretch
  - Change in period
  - Phase shift
  - Vertical translation
- Be able to find two different equations for any given graph with any or all of the possible changes.
  - Change in amplitude/vertical stretch
  - Change in period
  - Phase shift
  - Vertical translation
- Given the graphs or equations for two functions, be able to graph their sum or difference.
- Be able to simplify any trigonometric expression, applying any of the known identities along the way.
- Be able to write an expression in terms of a given trig function.
- Be able to verify an identity
  - By simplifying one side of the equation to the other
  - By simplifying both sides to the same thing
- Be able to appropriately show your work when simplifying and verifying
  - Proper usage of equals signs.
- Be able to correctly apply algebra skills to trigonometric functions
  - Simplifying expressions, most notably fractions
  - Factoring
  - Solving equations