

## Exam 2 Study Guide

This is only a summary of what you need to know. Be sure to study all homework problems.

### Graphs:

- Need to be able to draw graph of  $y = \tan \theta$ ,  $y = \cot \theta$ ,  $y = \sec \theta$ , &  $y = \csc \theta$
- Notice: Being able to graph secant and cosecant requires knowing how to graph sine and cosine.
- Be able to identify the amplitude, period, phase shift, domain, and range given an equation
- Be able to graph transformed function such as 1.6 #15-38

### Inverse Trigonometric Functions:

- Be able to evaluate the inverse trigonometric functions such as 1.7 #5-18
- Be able to evaluate the composition of trigonometric and inverse trigonometric functions such as 1.7 #47-73
- Be able to identify the domain and range of inverse trigonometric functions.

### Applications and models:

- Be able to solve real life problems involving right triangles and directional bearings such as 1.8 #19-40
- Be able to solve right triangles such as 1.8 #5-12

### Memorize and be able to use the following identities:

- Pythagorean identities:
  
- Reciprocal identities:
  
- Quotient Identities:
  
- Cofunction Identities and Even/Odd identities

### Using fundamental Identities:

- Be able to recognize and write the fundamental trig identities.
- Be able to use the fundamental trig identities to evaluate trig functions, simplify trig expressions, and rewrite trigonometric expressions such as 2.1 #7-50
- Be able to simplify a trigonometric expression by using a substitution such as in 2.1 #53-58
- Be able to verify trigonometric identities such as 2.2 #9-50

### Solving Trigonometric Equations:

- Be able to use standard algebraic techniques and inverse trigonometric functions to solve trigonometric equations. Such as 2.3 #5-17
- Be able to solve trig equations of quadratic type. Such as 2.3 #18-35 (mixed with above)
- Be able to solve trig equations involving multiple angles. Such as 2.3 #39-44

Be sure to practice homework problems and quiz problems.