Chapter 4: Trigonometric Functions Summary

Section 1: Be Able To
- Recognize and use the vocabulary of angles
- Use degree measure
- Use radian measure
- Convert between degrees and radians
- Draw angles in standard position
- Find coterminal angles
- Find the length of a circular arc
- Use linear and angular speed to describe motion on a circular path
- **Apply the concepts**: Reference pages 506 - 507 problems 87 - 96

Section 2: Be Able To
- Use a unit circle to define trigonometric functions of real numbers
- Recognize the domain and range of sine and cosine functions
- Find exact values of the trigonometric functions at $\pi/4$
- Use even and odd trigonometric functions
- Recognize and use fundamental identities
- Use periodic properties
- Evaluate trigonometric functions with a calculator
- **Apply the concepts**: Reference pages 521 – 522 problems 81 - 84

Section 3: Be Able To
- Use right triangles to evaluate trigonometric functions
- Find function values for $30^\circ \left( \frac{\pi}{6} \right), 45^\circ \left( \frac{\pi}{4} \right), 60^\circ \left( \frac{\pi}{3} \right)$
- Use equal cofunctions of complements
- Use right triangle trigonometry to solve applied problems
- **Apply the concepts**: Reference pages 534 – 535 problems 53 - 60

Section 4: Be Able To
- Use the definitions of trigonometric functions of any angle
- Use the signs of the trigonometric functions
- Find reference angles
- Use reference angles to evaluate trigonometric functions
Section 5: Be Able To
- Understand the graph of $y = \sin x$
- Understand the graph of $y = \cos x$
- **Apply the concepts:** Reference page 570 problems 85, 86

Section 6: Be Able To
- Understand the graph of $y = \tan x$
- Understand the graph of $y = \cot x$
- Understand the graph of $y = \csc x$ and $y = \sec x$
- **Apply the concepts:** Reference page 582 problem 59

Section 7: Be Able To
- Understand and use the inverse sine function
- Understand and use the inverse cosine function
- Understand and use the inverse tangent function
- Use a calculator to evaluate inverse trigonometric functions
- Find exact values of composite functions with inverse trigonometric functions

Section 8: Be Able To
- Solve a right triangle
- Solve problems
- **Apply the concepts:** Reference pages 610 – 611 problems 41 - 61