

# Chapter 5 Analytic Trigonometry

## Section 5.1 Using Fundamental Identities

**Objective:** In this lesson you learned how to use fundamental trigonometric identities to evaluate trigonometric functions and simplify trigonometric expressions.

Course Number

Instructor

Date

### I. Introduction (Page 376)

Name four ways in which the fundamental trigonometric identities can be used:

- 1)
- 2)
- 3)
- 4)

### *What you should learn*

How to recognize and write the fundamental trigonometric identities

### The Fundamental Trigonometric Identities

List six reciprocal identities:

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

List six cofunction identities:

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

List two quotient identities:

- 1)
- 2)

List six even/odd identities:

- 1)
- 2)
- 3)

List three Pythagorean identities:

- 1)
- 2)
- 3)

- 4)
- 5)
- 6)

**II. Using the Fundamental Identities** (Pages 377–380)

**Example 1:** Explain how to use the fundamental trigonometric identities to find the value of  $\tan u$  given that  $\sec u = 2$ .

***What you should learn***

How to use the fundamental trigonometric identities to evaluate trigonometric functions, simplify trigonometric expressions, and rewrite trigonometric expressions

**Example 2:** Explain how to use the fundamental trigonometric identities to simplify  $\sec x - \tan x \sin x$ .

**Example 3:** Explain how to use a graphing utility to verify whether  $\sec x \sin^3 x + \sin x \cos x = \tan x$  is an identity.

**Homework Assignment**

Page(s)

Exercises