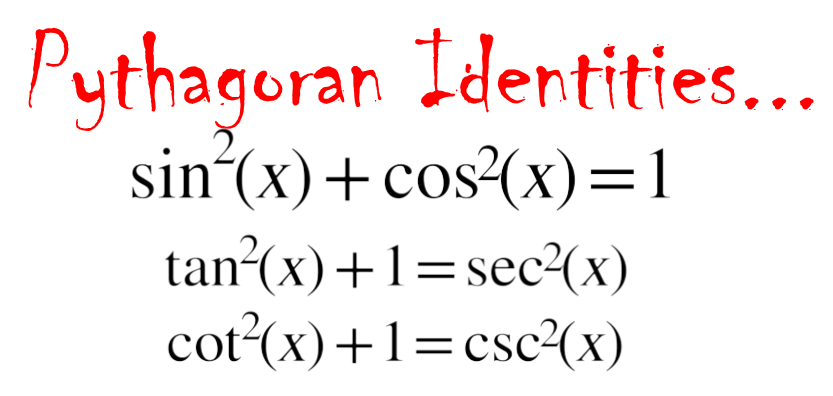
Lesson 9: Trigonometric Identities



Learning Targets:

* I can use trigonometric identities to simplify trigonometric expressions.
* I can use trigonometric identities to find the value of trigonometric functions.

|  |  |  |
| --- | --- | --- |
|  | **Side Ratio** | **Reciprocal Identities** |
|  |  |  |
|  |  |  |
|  |  |  |

Quotient Identities

tan x =

and

cot x =

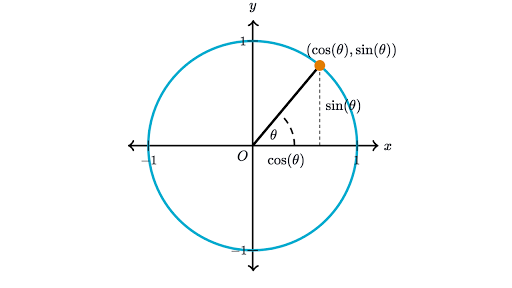
Directions: Use the reciprocal and quotient identities to simplify the expressions below.

Ex1: Ex2: Ex3:



You try

Ex1: Ex2: Ex3:

Flashback to the Unit Circle

Pythagorean Identity:

Use the Pythagorean Identity to simplify the expressions below:

Ex1. Ex2. Ex3:

**Trigonometric Identities**

**Here are some guidelines:**

1. Work with one side at a time.
2. Try converting all terms to sines and cosines.
3. Look for opportunities to factor or add fractions.

Ex1: Ex2:

Ex3: Ex4:

Ex5:

Using Trigonometric Identities to find Trigonometric Values

Ex 1: Given that and , what is the value of .

Ex2: Given that and , what is the value of .