Notice that "co" represents the complementary angle relationship and the *cofunctions*: sine/cosine, secant/cosecant, and tangent/cotangent.

The complementary angle relationship leads to:

$$\sin \theta = \cos (90° - \theta) \qquad \cos \theta = \sin (90° - \theta)$$
$$\sec \theta = \csc (90° - \theta) \quad \text{and} \quad \csc \theta = \sec (90° - \theta)$$
$$\tan \theta = \cot (90° - \theta) \qquad \cot \theta = \tan (90° - \theta)$$

Example 1
Rewrite each trig function using the cofunction.
$\sin 39° = \cos (90° - 39°) = \cos 51°$

Practice Problems 1

1. $\cos 17° =$

2. $\cot 84.1° =$

3. $\cos 68° \, 15' \, 40" =$

4. $\tan 35° =$

5. $\sin 79° \, 28' =$

6. $\sec 53.32° =$

7. $\sec 42.6° =$

8. $\csc 9° =$

9. $\tan 26° =$

Practice Problems

1. $\sin(-\theta) \cot(-\theta) = \dfrac{1}{\sec\theta}$

2. $\cos\theta \csc\theta = \cot\theta$

3. $\cot(90° - \theta) \cot\theta = 1$