

Guidelines for Simplifying Trig Expressions:

* **GOAL:** Express each problem as a single number (a constant) or a single trig function. (No trig function should appear in the denominator of an expression that has been simplified.)

* Follow the order of operations (**PEMDAS**) as you simplify.

* Binomial Expression? Look at the **PYTHAGOREAN IDENTITIES** for a match and replace the binomial with the appropriate equivalent.

* **FACTOR:** GCF, Difference of Two Squares, "Quadratic Trinomials" (If the expression you are trying to simplify contains an exponent larger than two, you **MUST** factor!)

* Substitute using basic identities - Try converting everything to terms of **SINE & COSINE!**

Simplifying Trig Expressions

1. $(\sin \theta)(\csc \theta)$

2. $\frac{1}{\csc x} \cdot \cot x$

3. $\cos^2 x \cdot \tan^2 x + \cos^2 x$

4. $\cos \theta \cdot \cot \theta + \sin \theta$

$$5. \cos x(\cos x - \sec x)$$

$$6. \frac{1 - \cos^2 x}{1 + \cos x}$$

$$7. \cot^4 x + 2\cot^2 x + 1$$

$$8. \frac{\sin(-x)}{\tan x}$$