8-4 Relationships Among the Functions

Objective: To simplify trigonometric expressions.

If $\sin^2\theta + \cos^2\theta = 1$ then prove the other two Pythagorean Identities.

1) Read all of page 318 and do Activity 1.

2) Do Activity 2 on p. 319 then read example 1.

3) Do the problems on the next page.

Simplify.

1. $1+\tan^2\theta$

2. $(\sec x-1)(\sec x+1)$

3. $\dfrac{1}{\sin^2 A}-\dfrac{1}{\tan^2 A}$

4. $1-\dfrac{\sin^2\theta}{\tan^2\theta}$

5. $\cos^2 A(\sec^2 A-1)$

6. $\sin A\tan A+\sin(90^\circ-A)$

8-4 Day 2

Warm-up

Simplify.

1. $\csc A - \cos A \cot A$

2. $\dfrac{\tan x + \cot x}{\sec^2 x}$

3. Let's use a difference of two squares.

$$\frac{\tan^2 \theta}{\sec \theta + 1} + 1$$

Prove the given identity.

4. $$\frac{\cot A(1+\tan^2 A)}{\tan A} = \csc^2 A$$