Spiral Review

Fill in the blank.

1.) $1-\sin^2 x =$ $\cos^2 x$

2.) $\sec^2 x - \tan^2 x =$ 1

3.) $1/\sin^2 x =$ $\csc^2 x$

4.) $\cos^2 x/\sin^2 x =$ $\cot^2 x$

p.357 5.2 Verifying Trigonometric Identities

Examples: Verify the identity.

1.) $\csc x\left(\csc x - \sin x\right) + \dfrac{\sin x - \cos x}{\sin x} + \cot x = \csc^2 x$

$\dfrac{1}{\sin x}$ ✓

$+\dfrac{\sin x}{\sin x} - \dfrac{\cos x}{\sin x} + \dfrac{\cos x}{\sin x}$

✓

Students will be able to use the fundamental identities to verify the equation.

2.) $\frac{1+\csc x}{\sec x} - \cot x = \cos x$

$$\frac{1}{\sec x} + \frac{\csc x}{\sec x} - \cot x$$

$$\frac{1}{\sec x} + \frac{\frac{1}{\sin x}}{\frac{1}{\cos x}} - \cot x$$

$$\frac{1}{\sec x} + \frac{\cos x}{\sin x} - \cot x$$

$$\frac{1}{\sec x} + \cot x - \cot x$$

$$\cos x$$

Students will be able to use the fundamental identities to verify the equation.

3.) $\frac{\cot x}{\csc x - 1} = \frac{\csc x + 1}{\cot x}$

$$\frac{\cot x(\csc x+1)}{\csc^2 x - 1}$$

$$\frac{\cot x(\csc x+1)}{\cot^2 x}$$

$$\frac{\csc x+1}{\cot x} = \frac{\csc x+1}{\cot x}$$

Turn-in: worksheet

HW:
p.363 (40, 41-44 all, 49-57 odds)