WARM UP

On a clean sheet of paper (this is what you'll start tonight's homework on--label it 5.1b), write a complete sentence about at least one strategy you used on Friday to simplify trigonometric expressions.

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Questions from 5.1a?

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Verify the identity algebraically. Work on one side!

$$(\sec\theta - \tan\theta)(\csc\theta + 1) = \cot\theta$$

$\sec\theta\csc\theta + \sec\theta - \csc\theta\tan\theta - \tan\theta$

$\frac{1}{\cos\theta}\cdot\frac{1}{\sin\theta} + \frac{1}{\cos\theta} - \frac{1}{\sin\theta}\cdot\frac{\sin\theta}{\cos\theta} - \frac{\sin\theta}{\cos\theta}$

$\frac{1}{\cos\theta\sin\theta} + \frac{1}{\cos\theta} - \frac{1}{\cos\theta} - \frac{\sin\theta}{\cos\theta}\cdot\frac{\sin\theta}{\sin\theta}$

$\frac{1}{\cos\theta\sin\theta} - \frac{\sin^2\theta}{\cos\theta\sin\theta}$

$\frac{1-\sin^2\theta}{\cos\theta\sin\theta}$

$\frac{\cos^2\theta}{\cos\theta\sin\theta}$

$\frac{\cos\theta}{\sin\theta}$

$\cot\theta$

p. 358, #45 (HW)

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Verify the identity algebraically. Work on one side!

$$\frac{(1+\sin x)}{(1+\sin x)}\frac{\cos x}{1-\sin x} = \sec x + \tan x$$

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

$\frac{\cos x + \cos x\sin x}{\cos^2 x}$

$\frac{\cos x}{\cos^2 x} + \frac{\cos x\sin x}{\cos^2 x}$

$\frac{1}{\cos x} + \frac{\sin x}{\cos x}$

$\sec x + \tan x$

p. 358, #43 (HW)

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Verify the identity algebraically. Work on one side!

$$\sqrt{\sec^4 x}-\sqrt{\tan^4 x}=\sec^2 x+\tan^2 x$$

$(\sec^2 x+\tan^2 x)(\sec^2 x-\tan^2 x)$

1

$\sec^2 x+\tan^2 x$

$1+\tan^2 x=\sec^2 x$

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

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Verify the identity algebraically. Work on one side!

$$1-2\sin^2 x+\sin^4 x=\cos^4 x$$

$(1-\sin^2 x)(1-\sin^2 x)$

$\cos^2 x\cdot\cos^2 x$

$\cos^4 x$

$\cos^2 x+\sin^2 x=1$

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

p. 358, #55 (HW)

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Check out 81-83...

Use the trig substitution to write the algebraic expression as a trigonometric function of theta, where $0<\theta<\frac{\pi}{2}$

$\sqrt{4-x^2}, x=2\cos\theta$

$\sqrt{4-(2\cos\theta)^2}$

$\sqrt{4-4\cos^2\theta}$

$\sqrt{4(1-\cos^2\theta)}$

$\sqrt{4\sin^2\theta}$

$2\sin\theta$

$\cos^2\theta+\sin^2\theta=1$

$\sin^2\theta=1-\cos^2\theta$

$6-8x$

$2(3-4x)$

$4-4x$

$4(1-x)$

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HOMEWORK

...use your Warm Up sheet to do the homework

5.1b (p. 358): 39-47 (eoo), 61-69 (eoo) 81-83 (all)

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