# Section 7.2 cont'd:

Thursday, February 26, 2015
11:28 AM

example: simplify

$$(\sin A + \cos A)^2 - \sin 2A$$

$$\sin^2 A + 2\sin A \cos A + \cos^2 A - 2\sin A \cos A$$

$$\sin^2 A + \cos^2 A$$

$$1$$

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

$$\frac{2\sin x \cos x}{2\cos x} = \sin x \frac{(2\cos x)}{2\cos x}$$

$$\sin x$$

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$$\cos^4 x - \sin^4 x$$

$a^2 - b^2 \neq (a-b)^2$

$$(\cos^2 x - \sin^2 x)(\cos^2 x + \sin^2 x)$$

$$\cos 2x$$

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(nasty!)

$$4\sin x \cos^3 x - 4\sin^3 x \cos x$$

$$4\sin x \cos x \left(\cos^2 x - \sin^2 x\right)$$

$$2 \cdot 2\sin x \cos x \left(\cos^2 x - \sin^2 x\right)$$

$$2\sin 2x \cos 2x$$

let $y = 2x$

$$2\sin y \cos y$$

$$\sin 2y$$

$$\sin 2(2x)$$

$$\sin 4x$$