Questions from homework?

p400 #1, 2, 3cd, 4cd, 5abc,
6abf, 9ace

Dec 7-12:44 PM

Sec 7.3 Double Angle Formulas

Today we will:
    -understand the relationship between
sin(x) and sin(2x), and
cos(x) and cos(2x), and
tan(x) and tan(2x).

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Using the compound formula, find the simplification for sin2x

Recall:

$$\sin 2x = \sin(x + x)$$ $$\sin(x + y) = \sin x \cos y + \cos x \sin y$$

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You can do the same thing for cos and tan.

$$\cos 2x = \cos(x + x)$$

$$\tan 2x = \tan(x + x)$$

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Summary

$$\sin 2\theta = 2\sin\theta\cos\theta$$

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

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

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

$$\tan 2\theta = \frac{2\tan\theta}{1-\tan^2\theta}$$

Nov 15-11:15 AM

Now we can use these formulas to find out a whole variety of cool things...

Ex:

If $\cos\theta = -\dfrac{2}{3}$ find $\cos 2\theta$ *and* $\sin 2\theta$

$$\sin 2\theta = 2\sin\theta\cos\theta$$

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Use the double angle formula to solve:

$$\tan\left(2\left(\frac{\pi}{3}\right)\right)$$

May 13-3:24 PM

p407 #1-3 LHC, 4, 6, 8,11a

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