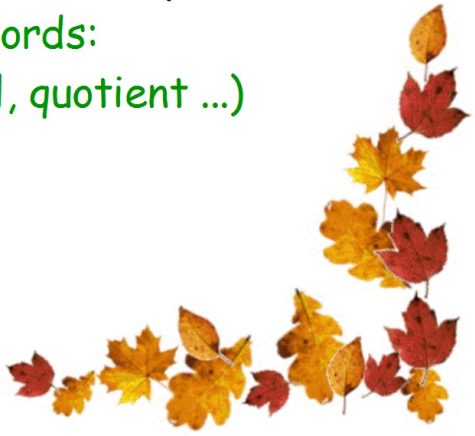
November 18

What do you think a double-angle identitiy would look like?
What do you think a product to sum identitiy would look like?

November 18

Students will verbally explain how to use trig identities and formulas to verify equations and solve problems

(using the words: identity, reciprocal, quotient ...)



Product-to-Sum Formulas

Sum-to-Product Formulas

Half-Angle Formulas:

Power-Reducing Formulas

Double-Angle Formulas:

Sum and Difference Formulas:

Power-Reducing Formulas

$$\tan^2 u = \frac{1-\cos 2u}{1+\cos 2u}$$

Sum and Difference Formulas:

$$\tan(u-v) = \frac{\tan u - \tan v}{1+\tan u \tan v}$$

$$\tan(u+v) = \frac{\tan u + \tan v}{1-\tan u \tan v}$$

Double-Angle Formulas:

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

Half-Angle Formulas:

$$\tan\left(\frac{u}{2}\right) = \frac{\sin u}{1+\cos u}$$

$$\tan\left(\frac{u}{2}\right) = \frac{1-\cos u}{\sin u}$$

Product-to-Sum Formulas

$$\sin u \cos v = \frac{1}{2}[\sin(u+v)+\sin(u-v)]$$

$$\sin u \sin v = \frac{1}{2}[\cos(u-v)-\cos(u+v)]$$

Sum and Difference Formulas:

$$\sin(u+v) = \sin u \cos v + \cos u \sin v$$

$$\sin(u-v) = \sin u \cos v - \cos u \sin v$$

Sum-to-Product Formulas

$$\sin x - \sin y = 2\cos\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$$

$$\sin x + \sin y = 2\sin\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$$

Half-Angle Formulas:

$$\sin\left(\frac{u}{2}\right) = \pm\sqrt{\frac{1-\cos u}{2}}$$

Power-Reducing Formulas

$$\sin^2 u = \frac{1-\cos 2u}{2}$$

Double-Angle Formulas:

$$\sin 2u = 2\sin u \cos u$$

Product-to-Sum Formulas

$$\cos u \cos v = \frac{1}{2}[\cos(u-v)+\cos(u+v)]$$

$$\cos u \sin v = \frac{1}{2}[\sin(u+v)-\sin(u-v)]$$

Sum and Difference Formulas:

$$\cos(u+v) = \cos u \cos v - \sin u \sin v$$

$$\cos(u-v) = \cos u \cos v + \sin u \sin v$$

Sum-to-Product Formulas

$$\cos x + \cos y = 2\cos\left(\frac{x+y}{2}\right)\cos\left(\frac{x-y}{2}\right)$$

$$\cos x - \cos y = -2\sin\left(\frac{x+y}{2}\right)\sin\left(\frac{x-y}{2}\right)$$

Half-Angle Formulas:

$$\cos\left(\frac{u}{2}\right) = \pm\sqrt{\frac{1+\cos u}{2}}$$

Power-Reducing Formulas

$$\cos^2 u = \frac{1+\cos 2u}{2}$$

Double-Angle Formulas:

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

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

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

pg 227 # 1 - 10 AND

Pick one:

#11 – 31 (odd)

OR

#11 – 44 (every 3rd problem)