

November 22

What is your favorite part of Thanksgiving?



November 22

Students will verbally explain how to  
simplify expressions using the  
Sum to Product and  
Product to Sum Formulas

(using the words:  
sine, cosine, sum, product...)



## Match using the Product to Sum Formulas

$$2\cos(4x)\cos(2x) \text{-----} \cos(2x) + \cos(6x)$$

$$2\cos(u)\cos(v) = \cos(u-v) + \cos(u+v)$$

$$2\cos(6x)\cos(2x) \text{-----} \cos(4x) + \cos(8x)$$

$$2\cos(5x)\sin(3x) \text{-----} \sin(8x) - \sin(2x)$$

$$2\cos(u)\sin(v) = \sin(u+v) - \sin(u-v)$$

$$2\sin(6x)\cos(2x) \text{-----} \sin(8x) - \sin(4x)$$

$$2\sin(7x)\sin(1x) \text{-----} \cos(6x) - \cos(8x)$$

$$2\sin(u)\sin(v) = \cos(u-v) - \cos(u+v)$$

$$2\sin(5x)\sin(3x) \text{-----} \cos(2x) - \cos(8x)$$

## Use the Sum to Product Formulas to fill in the blanks.

$$\sin(6y) - \sin(4y) = 2\cos(5y)\sin(y)$$

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

$$\sin(5y) + \sin(y) = 2\sin(3y)\cos(2y)$$

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

$$\cos(10y) - \cos(8y) = -2\sin(9y)\sin(y)$$

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

$$\cos(9y) + \cos(3y) = 2\cos(6y)\cos(3y)$$

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

pg 227 # 1 - 10 AND

Pick one:

#11 – 31 (odd)

OR

#11 – 44 (every 3<sup>rd</sup> problem)

pg 247 # 21 - 30

Pg 257 # 19 - 22, 29 - 34,  
53 - 56, 61 - 80