mobius

Trigonometry Identities - Sum/Difference to Identity (Greek Letter)

Name _____

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1 Complete the sum/difference identity for this expression

$$\sin(\gamma + \alpha)$$

A $= \sin(\gamma)\cos(\alpha) + \cos(\gamma)\sin(\alpha)$

B $= \sin(\gamma)\cos(\alpha) - \cos(\gamma)\sin(\alpha)$

2 Complete the sum/difference identity for this expression

$$\tan(\alpha + \beta)$$

A $= \dfrac{\tan(\alpha) + \tan(\beta)}{1 - \tan(\alpha)\tan(\beta)}$

B $= \dfrac{\cos(\alpha) + \sin(\beta)}{1 - \tan(\alpha)\tan(\beta)}$

3 Complete the sum/difference identity for this expression

$$\sin(\beta - \theta)$$

A $= \sin(\beta)\cos(\theta) + \cos(\beta)\sin(\theta)$

B $= \sin(\beta)\cos(\theta) - \cos(\beta)\sin(\theta)$

4 Complete the sum/difference identity for this expression

$$\cos(\gamma - \alpha)$$

A $= \cos(\gamma)\cos(\alpha) + \sin(\gamma)\sin(\alpha)$

B $= \sin(\gamma)\cos(\alpha) - \cos(\gamma)\sin(\alpha)$

5 Complete the sum/difference identity for this expression

$$\cos(\alpha + \beta)$$

A $= \cos(\alpha)\cos(\beta) - \sin(\alpha)\sin(\beta)$

B $= \sin(\alpha)\cos(\beta) + \cos(\alpha)\sin(\beta)$

6 Complete the sum/difference identity for this expression

$$\cos(\gamma - \theta)$$

A $= \sin(\gamma)\cos(\theta) - \cos(\gamma)\sin(\theta)$

B $= \cos(\gamma)\cos(\theta) + \sin(\gamma)\sin(\theta)$

7 Complete the sum/difference identity for this expression

$$\tan(\alpha + \theta)$$

A $= \dfrac{\tan(\alpha) + \tan(\theta)}{1 - \tan(\alpha)\tan(\theta)}$

B $= \dfrac{\tan(\alpha) + \tan(\theta)}{\tan^2(\alpha)\tan^2(\theta)}$

8 Complete the sum/difference identity for this expression

$$\sin(\theta + \beta)$$

A $= \sin^2(\theta) - \cos(\theta)\sin(\beta)$

B $= \sin(\theta)\cos(\beta) + \cos(\theta)\sin(\beta)$