

The Secret of Proving Trigonometric Identities Sum and Difference

Lesson 174 | Trigonometry | Sum and difference identities

<https://www.youtube.com/watch?v=PjbKAXc-Mok>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Expand $\sin(2x+4x)$ with the sum identity, then evaluate at $x=\pi/36$.

02

Expand $\sin(7x+5x)$ with the sum identity, then evaluate at $x=\pi/72$.

03

Expand $\sin(2x+12x)$ with the sum identity, then evaluate at $x=\pi/84$.

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04

Expand $\sin(9x+8x)$ with the sum identity, then evaluate at $x=\pi/102$.

05

Expand $\sin(12x+9x)$ with the sum identity, then evaluate at $x=\pi/126$.

06

Expand $\sin(9x+4x)$ with the sum identity, then evaluate at $x=\pi/78$.

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01

Expand $\sin(2x+4x)$ with the sum identity, then evaluate at $x=\pi/36$.

$\sin(2x)\cos(4x)+\cos(2x)\sin(4x)$. At the given x , $(2+4)x=\pi/6$, so the value is $1/2$.

02

Expand $\sin(7x+5x)$ with the sum identity, then evaluate at $x=\pi/72$.

$\sin(7x)\cos(5x)+\cos(7x)\sin(5x)$. At the given x , $(7+5)x=\pi/6$, so the value is $1/2$.

03

Expand $\sin(2x+12x)$ with the sum identity, then evaluate at $x=\pi/84$.

$\sin(2x)\cos(12x)+\cos(2x)\sin(12x)$. At the given x , $(2+12)x=\pi/6$, so the value is $1/2$.

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04

Expand $\sin(9x+8x)$ with the sum identity, then evaluate at $x=\pi/102$.

$\sin(9x)\cos(8x)+\cos(9x)\sin(8x)$. At the given x , $(9+8)x=\pi/6$, so the value is $1/2$.

05

Expand $\sin(12x+9x)$ with the sum identity, then evaluate at $x=\pi/126$.

$\sin(12x)\cos(9x)+\cos(12x)\sin(9x)$. At the given x , $(12+9)x=\pi/6$, so the value is $1/2$.

06

Expand $\sin(9x+4x)$ with the sum identity, then evaluate at $x=\pi/78$.

$\sin(9x)\cos(4x)+\cos(9x)\sin(4x)$. At the given x , $(9+4)x=\pi/6$, so the value is $1/2$.