

The Heart and Soul of Sum and Difference Identities Pre Calculus Honors 7 2

Lesson 227 | Precalculus | Sum and difference identities

<https://www.youtube.com/watch?v=rAUJOvLhwQY>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Expand $\sin(2x+9x)$ with the sum identity, then evaluate at $x=\pi/66$.

02

Expand $\sin(5x+14x)$ with the sum identity, then evaluate at $x=\pi/114$.

03

Expand $\sin(2x+10x)$ with the sum identity, then evaluate at $x=\pi/72$.

The Heart and Soul of Sum and Difference Identities Pre Calculus Honors 7 2

Lesson 227 | Precalculus | Sum and difference identities

<https://www.youtube.com/watch?v=rAUJOvLhwQY>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

04

Expand $\sin(7x+6x)$ with the sum identity, then evaluate at $x=\pi/78$.

05

Expand $\sin(6x+8x)$ with the sum identity, then evaluate at $x=\pi/84$.

06

Expand $\sin(6x+4x)$ with the sum identity, then evaluate at $x=\pi/60$.

The Heart and Soul of Sum and Difference Identities Pre Calculus Honors 7 2

Lesson 227 | Precalculus | Sum and difference identities

<https://www.youtube.com/watch?v=rAUJOvLhwQY>

Original practice aligned to the saved video title.

01

Expand $\sin(2x+9x)$ with the sum identity, then evaluate at $x=\pi/66$.

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

02

Expand $\sin(5x+14x)$ with the sum identity, then evaluate at $x=\pi/114$.

$\sin(5x)\cos(14x)+\cos(5x)\sin(14x)$. At the given x , $(5+14)x=\pi/6$, so the value is $1/2$.

03

Expand $\sin(2x+10x)$ with the sum identity, then evaluate at $x=\pi/72$.

$\sin(2x)\cos(10x)+\cos(2x)\sin(10x)$. At the given x , $(2+10)x=\pi/6$, so the value is $1/2$.

The Heart and Soul of Sum and Difference Identities Pre Calculus Honors 7 2

Lesson 227 | Precalculus | Sum and difference identities

<https://www.youtube.com/watch?v=rAUJOvLhwQY>

Original practice aligned to the saved video title.

04

Expand $\sin(7x+6x)$ with the sum identity, then evaluate at $x=\pi/78$.

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

05

Expand $\sin(6x+8x)$ with the sum identity, then evaluate at $x=\pi/84$.

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

06

Expand $\sin(6x+4x)$ with the sum identity, then evaluate at $x=\pi/60$.

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