



Trigonometry Identities - Sum to Product Identity True/False (Radians)

1 Is this sum to product identity correct?

$$\sin\left(\frac{\pi}{6}\right) - \sin\left(\frac{5\pi}{3}\right) = 2\sin\left(\frac{\left(\frac{\pi}{6} - \frac{5\pi}{3}\right)}{2}\right)\cos\left(\frac{\left(\frac{\pi}{6} + \frac{5\pi}{3}\right)}{2}\right)$$

A
Yes

B
No

2 Is this sum to product identity correct?

$$\sin\left(\frac{\pi}{3}\right) - \sin\left(\frac{7\pi}{4}\right) = 2\sin\left(\frac{\left(\frac{\pi}{3} - \frac{7\pi}{4}\right)}{2}\right)\cos\left(\frac{\left(\frac{\pi}{3} + \frac{7\pi}{4}\right)}{2}\right)$$

A
Yes

B
No

3 Is this sum to product identity correct?

$$\sin\left(\frac{2\pi}{3}\right) + \sin\left(\frac{\pi}{6}\right) = 2\sin\left(\frac{\left(\frac{2\pi}{3} + \frac{\pi}{6}\right)}{2}\right)\cos\left(\frac{\left(\frac{2\pi}{3} - \frac{\pi}{6}\right)}{2}\right)$$

A
Yes

B
No

4 Is this sum to product identity correct?

$$\sin\left(\frac{\pi}{3}\right) + \sin\left(\frac{\pi}{6}\right) = 2\sin\left(\frac{\left(\frac{\pi}{3} + \frac{\pi}{6}\right)}{2}\right)\cos\left(\frac{\left(\frac{\pi}{3} - \frac{\pi}{6}\right)}{2}\right)$$

A
Yes

B
No

5 Is this sum to product identity correct?

$$\cos\left(\frac{5\pi}{3}\right) - \cos\left(\frac{11\pi}{6}\right) = \cos\left(\frac{\left(\frac{5\pi}{3} + \frac{11\pi}{6}\right)}{2}\right)\sin\left(\frac{\left(\frac{5\pi}{3} + \frac{11\pi}{6}\right)}{2}\right)$$

A
Yes

B
No

6 Is this sum to product identity correct?

$$\sin\left(\frac{\pi}{6}\right) + \sin\left(\frac{\pi}{4}\right) = 2\sin\left(\frac{\left(\frac{\pi}{6} + \frac{\pi}{4}\right)}{2}\right)\cos\left(\frac{\left(\frac{\pi}{6} - \frac{\pi}{4}\right)}{2}\right)$$

A
Yes

B
No

7 Is this sum to product identity correct?

$$\cos\left(\frac{\pi}{3}\right) + \cos\left(\frac{2\pi}{3}\right) = 2\cos\left(\frac{2}{\left(\frac{\pi}{3} + \frac{2\pi}{3}\right)}\right)\cos\left(\frac{\left(\frac{\pi}{3} - \frac{2\pi}{3}\right)}{2}\right)$$

A
Yes

B
No

8 Is this sum to product identity correct?

$$\sin\left(\frac{11\pi}{6}\right) - \sin\left(\frac{5\pi}{4}\right) = -2\sin\left(\frac{2}{\left(\frac{11\pi}{6}\right)}\right)\cos\left(\frac{\left(\frac{11\pi}{6} - \frac{5\pi}{4}\right)}{2}\right)$$

A
Yes

B
No