



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

1 Is this product to sum identity correct?

$$\cos\left(\frac{4\pi}{3}\right)\sin\left(\frac{2\pi}{3}\right) = \frac{1}{2} \left[\sin\left(\frac{4\pi}{3} + \frac{2\pi}{3}\right) - \sin\left(\frac{4\pi}{3} - \frac{2\pi}{3}\right) \right]$$

A
Yes

B
No

2 Is this product to sum identity correct?

$$\cos\left(\frac{2\pi}{3}\right)\cos\left(\frac{7\pi}{4}\right) = \frac{1}{2} \left[\sin\left(\frac{2\pi}{3} + \frac{7\pi}{4}\right) + \sin\left(\frac{2\pi}{3} - \frac{7\pi}{4}\right) \right]$$

A
Yes

B
No

3 Is this product to sum identity correct?

$$\sin\left(\frac{\pi}{4}\right)\sin\left(\frac{3\pi}{4}\right) = \frac{1}{2} \left[\sin\left(\frac{\pi}{4} + \frac{3\pi}{4}\right) + \sin\left(\frac{\pi}{4} - \frac{3\pi}{4}\right) \right]$$

A
Yes

B
No

4 Is this product to sum identity correct?

$$\sin\left(\frac{2\pi}{3}\right)\cos\left(\frac{11\pi}{6}\right) = \frac{1}{2} \left[\sin\left(\frac{2\pi}{3} + \frac{11\pi}{6}\right) + \sin\left(\frac{2\pi}{3} - \frac{11\pi}{6}\right) \right]$$

A
Yes

B
No

5 Is this product to sum identity correct?

$$\sin\left(\frac{5\pi}{6}\right)\sin\left(\frac{7\pi}{4}\right) = \frac{1}{2} \left[\cos\left(\frac{5\pi}{6} + \frac{7\pi}{4}\right) + \sin\left(\frac{5\pi}{6} + \frac{7\pi}{4}\right) \right]$$

A
Yes

B
No

6 Is this product to sum identity correct?

$$\cos\left(\frac{\pi}{3}\right)\cos\left(\frac{7\pi}{6}\right) = \frac{1}{2} \left[\cos\left(\frac{\pi}{3} + \frac{7\pi}{6}\right) + \cos^2\left(\frac{\pi}{3} + \frac{7\pi}{6}\right) \right]$$

A
Yes

B
No

7 Is this product to sum identity correct?

$$\cos\left(\frac{5\pi}{4}\right)\sin\left(\frac{5\pi}{3}\right) = \frac{1}{2} \left[\sin\left(\frac{5\pi}{4} + \frac{5\pi}{3}\right) - \sin\left(\frac{5\pi}{4} - \frac{5\pi}{3}\right) \right]$$

A
Yes

B
No

8 Is this product to sum identity correct?

$$\sin\left(\frac{\pi}{6}\right)\sin\left(\frac{\pi}{3}\right) = \frac{1}{2} \left[\cos\left(\frac{\pi}{6} + \frac{\pi}{3}\right) + \sin\left(\frac{\pi}{6} + \frac{\pi}{3}\right) \right]$$

A
Yes

B
No