

$$\cos n = 1 + \sin n = \frac{1}{\cos n} \Rightarrow \cos n = \frac{1}{\cos n} \Rightarrow \cos^2 n = 1$$

$$\cos^2 n = 1$$

$$\Rightarrow n = 2k\pi + \frac{\pi}{2}$$

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$$\sin n - \cos n + 1 - \cos n = -1$$

$$\sin n - 2\cos n + 1 = 0$$

$$(\cos n + 1)(\cos n - 1) = 0 \Rightarrow \cos n = -1$$

اصول
 $\sin$ و $\cos$

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$$\sin(n - \frac{\pi}{2}) + \sin(n - \frac{\pi}{2})$$

$$2\sin(n - \frac{\pi}{2}) = 1$$

$$2\sin(n - \frac{\pi}{2}) = 1 \Rightarrow \sin(n - \frac{\pi}{2}) = \frac{1}{2}$$

$$\frac{\pi}{6} + 2k\pi = n - \frac{\pi}{2}$$

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$$\frac{1}{\cos n} + \frac{1}{-\sin n} = \frac{\sin n - \cos n}{\sin n \cos n} = 0$$

$$\sin n - \cos n = 0 \Rightarrow \sin n = \cos n \Rightarrow n = 2k\pi + \frac{\pi}{4}$$

$$\cos n = \frac{1}{\sqrt{2}}$$

$$\frac{\pi}{4} + 2k\pi = n$$

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$$\sin(n + \frac{\pi}{2}) = \sin(\frac{\pi}{2} - n)$$

$$\sin(\frac{\pi}{2} - n) = \cos n = \frac{1}{\sqrt{2}}$$

$$\frac{n}{\pi} - \frac{1}{2} = 1 \Rightarrow \frac{n}{\pi} = \frac{3}{2}$$

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$$\Rightarrow n = \frac{3\pi}{2}$$

$$\cos(n - \frac{\pi}{6}) = \cos(\frac{\pi}{6} - n) \Rightarrow \sin(\frac{\pi}{6} - \frac{\pi}{6} + n) = \sin(\frac{\pi}{6} - n)$$

$$\sin^2(n + \frac{\pi}{6}) = 1$$

$$\sin(n + \frac{\pi}{6}) = 1 \Rightarrow \sin n + \frac{\pi}{6} = \pi k + \frac{\pi}{6} \Rightarrow n = \pi k + \frac{\pi}{6}$$

$$\sin(n + \frac{\pi}{6}) = -1$$

$$\sin n + \frac{\pi}{6} = \pi k + \frac{5\pi}{6} \Rightarrow n = \pi k + \frac{2\pi}{3}$$

$$\frac{1}{2} \sin n + \frac{\sqrt{3}}{2} \cos n = \frac{\sqrt{3}}{2}$$

$$-\frac{\pi}{6} + \frac{4\pi}{6} + \frac{4\pi}{6} = \frac{10\pi}{6}$$

$$\sin(n + \frac{\pi}{6}) = \sin(\frac{\pi}{6})$$

$$n + \frac{\pi}{6} = \pi k + \frac{\pi}{6} \Rightarrow n = \pi k$$

$$n + \frac{\pi}{6} = \pi k + \frac{5\pi}{6} \Rightarrow n = \pi k + \frac{2\pi}{3}$$

$$\sin \frac{\pi}{6} - n = -\cos n$$

$$\sin n = -\frac{1}{2} \Rightarrow n = \pi k - \frac{\pi}{6} \Rightarrow n = \pi k - \frac{\pi}{6}$$

$$\sin n = \frac{\sqrt{3}}{2} \Rightarrow n = \pi k + \frac{\pi}{6}$$

$$\frac{\pi}{6} + \frac{\pi}{6} + \frac{\pi}{6} + \frac{\pi}{6} + \frac{\pi}{6} = \frac{5\pi}{6} = \frac{\pi}{6}$$

$$\cos n = \frac{1}{2} \Rightarrow n = \pi k + \frac{\pi}{6}$$

$$\cos n = \frac{\sqrt{3}}{2} \Rightarrow n = \pi k + \frac{\pi}{6}$$

$$\cos n = \frac{1}{2}$$

$$n = \frac{\pi k + \frac{\pi}{6}}{2}$$

$$\frac{\sqrt{3}}{2}$$

$$\tan n = \frac{1}{\sqrt{3}} \Rightarrow \tan n = \tan(\frac{\pi}{6}) \Rightarrow n = \frac{\pi}{6} - n$$

$$n = \pi k + \frac{\pi}{6} - n \Rightarrow n = \frac{\pi k}{2} + \frac{\pi}{12}$$