



$$\cos(\pi) = -\sqrt{r}$$

$$\sin(\frac{11\pi}{4}) = \sin(\frac{11\pi}{4} - 2\pi) = -\cos(\pi)$$

$$\sin(\frac{11\pi}{4}) = \frac{\sqrt{r}}{r}$$

$$\cos(\frac{11\pi}{4}) = \cos(\pi - \pi) = -\cos(\pi)$$

$$r \frac{\sqrt{r}}{r} (\frac{\sqrt{r}}{r}) \times \cos(\pi) \rightarrow \sqrt{r} (\frac{\sqrt{r}}{r}) (\times \cos(\pi)) = \frac{r}{r} \cos \pi + \cos \pi = \frac{\omega}{r} \cos \pi \rightarrow \text{بالر } \frac{\omega}{r}$$

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$$\cos^2(\frac{1}{4}\pi) \sin^2(\frac{1}{4}\pi) = \frac{1}{r} \sin^2(\frac{1}{4}\pi)$$

عبارت بالا را ضرب و تقسیم کنیم.

$$\frac{1}{r} \sin^2(\frac{1}{4}\pi) \cos^2(\frac{1}{4}\pi) = \frac{1}{14} \sin^2(\frac{1}{4}\pi) \rightarrow \frac{1}{14} \sin^2(\frac{1}{4}\pi) \cos^2(\frac{1}{4}\pi) = \frac{1}{14r} \sin^2(\frac{1}{4}\pi)$$

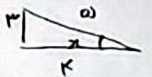
$$\frac{1}{14r} \sin^2(\frac{1}{4}\pi) \cos^2(\frac{1}{4}\pi) = \frac{1}{14r} \sin^2(\frac{1}{4}\pi) \rightarrow \frac{1}{14r} \sin^2(\frac{1}{4}\pi) \times 14 = \frac{1}{14r} \sin^2(\frac{1}{4}\pi) \times 14 =$$

$$\left( \frac{\sin(\frac{1}{4}\pi)}{r \sin(\frac{1}{4}\pi)} \right)^2 \rightarrow \sin(\frac{1}{4}\pi) = \sin\left(\frac{\pi}{4}\right) = \frac{-\sqrt{r}}{r}, \quad \sin(\frac{1}{4}\pi) = \sin\frac{\pi}{4} = \sin \omega = \sin(\omega - \pi_0)$$

$$= \frac{\sqrt{r}}{r} \times \frac{\sqrt{r}}{r} - \frac{\sqrt{r}}{r} \times \frac{1}{r} = \frac{\sqrt{r} - \sqrt{r}}{r} \rightarrow \left( \frac{-\sqrt{r}}{r} \right)^2 = \frac{r}{r^2} = \frac{r}{14(1-\sqrt{r})} = \frac{r(1+\sqrt{r})}{14} = \frac{4+r\sqrt{r}}{14}$$

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$$\frac{1 - \sin x}{1 + \sin x} = r \rightarrow 1 - \sin x = r + r \sin x \rightarrow -r = \omega \sin x \rightarrow \sin x = \frac{-r}{\omega}$$



$$\tan x = \frac{r}{r} \rightarrow \tan \frac{x}{r} = a \rightarrow \tan x = \frac{ra}{1-a^2} = \frac{r}{r} \Rightarrow ra = r - ra^2$$

$$ra^2 + ra - r = 0 \rightarrow a^2 + a - 1 = (a+1)(a-1) \rightarrow a = \frac{1}{r} = -r, \quad a = \frac{1}{r}$$

$$-r \leftarrow \tan \frac{\pi}{4}$$

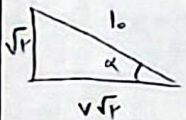
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$$\frac{\sin \theta + \frac{1 + \cos \theta}{\sin \theta}}{1 - \cos \theta} \rightarrow \frac{\sin^2 \theta + 1 - \cos^2 \theta}{\sin \theta (1 - \cos \theta)} = \frac{r \sin^2 \theta}{\sin \theta (1 - \cos \theta)} = \frac{r \sin \theta}{(1 - \cos \theta)} = \frac{r \sin \theta}{1 - \cos \theta} \times \frac{1 + \cos \theta}{1 + \cos \theta}$$

$$= \frac{r \sin \theta (1 + \cos \theta)}{1 - \cos^2 \theta} = \frac{r \sin \theta (1 + \cos \theta)}{\sin^2 \theta} = \frac{r(1 + \cos \theta)}{\sin \theta} = \frac{r \cos^2 \theta}{r \sin \theta \cos \theta} = r \frac{\cos \theta}{\sin \theta} = r \cot \frac{\theta}{r}$$

$$= r \cot \frac{\theta}{r} = k \cot \frac{\theta}{r} \rightarrow k = r$$

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$$\cos\left(\frac{11\pi}{4} + \alpha\right) = \cos\left(\frac{11\pi}{4}\right) \cos \alpha - \sin\left(\frac{11\pi}{4}\right) \sin \alpha = \frac{-\sqrt{r}}{r} \times \left(\frac{-\sqrt{r}}{10}\right) - \frac{\sqrt{r}}{r} \times \frac{\sqrt{r}}{10}$$

$$= \frac{1r}{r_0} - \frac{r}{r_0} = \frac{1r}{r_0} = \frac{4}{10} = \frac{r}{10}$$

$$\frac{11\pi}{4} = \frac{11\pi + 4\pi}{4} = r\pi + \frac{4\pi}{4} \rightarrow \cos\left(r\pi + \frac{4\pi}{4}\right) = \cos\left(\frac{4\pi}{4}\right) = \frac{-\sqrt{r}}{r}$$

$$\sin\left(r\pi + \frac{4\pi}{4}\right) = \sin\left(\frac{4\pi}{4}\right) = \frac{\sqrt{r}}{r}$$

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