

دیا نا وطن خواہ

۱۔ الف

$$\tan\left(\frac{11\pi}{\pi}\right) = \tan\left(\frac{11\pi}{\pi}\right) = -1$$

$$\sin\left(\frac{15\pi}{\pi}\right) = \sin\left(\frac{15\pi}{\pi}\right) = -\frac{\sqrt{3}}{2}$$

$$\cos\left(\frac{13\pi}{\pi}\right) = \cos\left(\frac{13\pi}{\pi}\right) = -\frac{\sqrt{3}}{2}$$

$$-1 + \left(-\frac{\sqrt{3}}{2}\right) \left(-\frac{\sqrt{3}}{2}\right) = -1 + \frac{1}{2} = -\frac{1}{2}$$

$$\therefore \tan\left(\frac{17\pi}{4}\right) = \tan\left(\frac{17\pi}{4}\right) = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$\sin\left(\frac{11\pi}{\pi}\right) = \sin\left(\frac{11\pi}{\pi}\right) = -\frac{\sqrt{3}}{2}$$

$$\left(-\frac{\sqrt{3}}{2}\right) \left(-\frac{\sqrt{3}}{2}\right) = \frac{1}{2}$$

$$\cos\left(\frac{10\pi}{\pi}\right) = \cos\left(\frac{10\pi}{\pi}\right) = -\frac{1}{2}$$

$$\frac{1}{2} + \left(-\frac{1}{2}\right) = 0$$

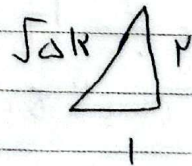
$$\frac{r \cos \theta - \sin \theta}{\cos \theta + \sin \theta} = \frac{r - \tan \theta}{1 + \tan \theta}$$

$$\tan \theta = \frac{1}{r}$$

$$\cot \theta = r$$

$$\rightarrow \frac{r - \left(\frac{1}{r}\right)}{1 + \frac{1}{r}} = \frac{\frac{11}{2} - \frac{1}{2}}{\frac{2}{2} + \frac{1}{2}} = \frac{11}{3}$$

$$\tan = \frac{\sin}{\cos} = \frac{r \cos}{\cos} = \frac{rk}{k} = r$$



$$\cos = \frac{\text{جوار}}{\text{وتر}} = \frac{1}{\sqrt{5}r} = \frac{1}{\sqrt{5}}$$

$$\sin = \frac{\text{مقابل}}{\text{وتر}} = \frac{rk}{\sqrt{5}rk} = \frac{r}{\sqrt{5}}$$

$$\cot = \frac{1}{r}$$

$$\cos = -\sqrt{1 - \sin^2} = -\sqrt{1 - \frac{1}{100}} = -\frac{\sqrt{99}}{10}$$

(الف. ١٤)

$$\cos\left(\frac{11\pi}{8} + \alpha\right) = \cos\left(\frac{3\pi}{8} + \alpha\right)$$

$$\rightarrow \cos \frac{3\pi}{8} \cos \alpha - \sin \frac{3\pi}{8} \sin \alpha \rightarrow$$

$$-\frac{\sqrt{2}}{2} \cos \alpha - \frac{\sqrt{2}}{2} \sin \alpha \rightarrow -\frac{\sqrt{2}}{2} (\cos \alpha + \sin \alpha)$$

$$\cos \alpha + \sin \alpha = \frac{-\sqrt{99} + \sqrt{2}}{10} \rightarrow \cos\left(\frac{11\pi}{8} + \alpha\right) =$$

$$\frac{\sqrt{2}}{2} (\sqrt{99} - \sqrt{2})$$

$$\sin = \frac{1}{\sqrt{100}} \quad \cos \alpha + \sin \alpha = \frac{1}{\sqrt{100}}$$

$$\cos \frac{\sqrt{2}}{\sqrt{100}}$$

$$\sin\left(\frac{11\pi}{8} + \alpha\right) = \sin\left(\frac{3\pi}{8} + \frac{\pi}{2} + \alpha\right) =$$

$$\sin\left(\frac{\pi}{2} + \alpha\right) = \sin \frac{\pi}{2} \cos \alpha + \cos \frac{\pi}{2} \sin \alpha = \frac{\sqrt{2}}{2} (\sin \alpha + \cos \alpha)$$

$$\sin\left(\frac{11\pi}{8} + \alpha\right) = -\frac{\sqrt{2}}{2} \times \frac{1}{\sqrt{100}} = -\frac{\sqrt{2}}{2\sqrt{100}} = -\frac{\sqrt{2}}{20}$$

$$\sin\left(\frac{11\pi}{8} + \alpha\right) = -\frac{\sqrt{2}}{20}$$

$$\sin^2 + \cos^2 = 1$$

$$(\sin^2 + \cos^2) = \sin^2 + (\sin^2 + \cos^2) \Rightarrow$$

$$\sin^2 + 1 = \frac{2}{\sqrt{2}}$$

$$\sin^2 = \frac{1}{\sqrt{2}}$$

$$\cos^2 = 1 - \sin^2 \rightarrow \frac{1}{\sqrt{2}} \quad \tan^2 = \frac{1/\sqrt{2}}{1/\sqrt{2}} = 1$$

$$\frac{1}{p} \times \sqrt{10} \times 4 \times \sin \alpha = 3\sqrt{10} \sin \alpha = \frac{1}{4} \quad \text{--- ۹}$$

$$\sin \alpha = \frac{1}{4} \times \frac{1}{\sqrt{10}} = \frac{\sqrt{10}}{40} \rightarrow 40, 10, 9$$

$$\frac{10}{40} = 10$$

$$b = 3K$$

$$a = 2K$$

$$\text{مثال} \rightarrow ab \sin 120^\circ = 2K \times 3K \times \frac{1}{2} = -V$$

$$3K^2 = 2K$$

$$K^2 = 11 \rightarrow K = \sqrt{11}$$

$$p = p(a+b) = 2(4\sqrt{11} + 9\sqrt{11})$$

$$2 \times 13\sqrt{11} = 26\sqrt{11}$$

$$AD = \omega + K = V$$

$$AE = K$$

$$AC = K + K = V$$

$$AC = V$$

$$AD = V$$

$$AB = \omega$$

$$S = \frac{1}{2} AB \cdot AC \cdot \sin A \Rightarrow \frac{1}{2} \times \omega \times V \times \sin \alpha = 1V \times \sin A$$

$$2BN = 3NC$$

$$NC = K \quad BN = K$$

$$\frac{BM}{BA} = \frac{BN}{BC}$$

$$\frac{BM}{BA} = \frac{BN}{BC}$$

$$BE = K + K = \omega$$

$$\frac{BM}{BA} = \frac{K}{\omega}$$

$$\frac{AM}{BA} = \frac{K}{\omega}$$

$$\rightarrow \frac{BM}{AM} = \frac{\frac{K}{\omega}}{\frac{K}{\omega}} = \left[\frac{P}{P} \right]$$

$$\sqrt{\cos^2} = |\cos|$$

-10

$$\frac{1}{|\cos|} = \tan = \frac{1 + \sin}{|\cos|}$$

$$\frac{|\sin|}{\cos} = \frac{-1}{\cot} = -\tan \quad \tan = \frac{\sin}{\cos}$$

$$|\cos| = -\cos$$

$$\frac{\sin}{\cos} = \frac{-\sin}{|\cos|} = \frac{-1}{\cos} = \frac{-1}{|\cos|}$$

$$\sin = 0$$

$$\sin < 0$$

$$\sin = 0 \quad \alpha$$

$$\sin < 0$$

$$\cos < 0$$

$$\tan > 0$$

$$\cot > 0$$

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