

19, 25

طالع حسان عمار - يازدهم بصره - بابل

$$\frac{1}{\sqrt{\cos x}} - \frac{1}{\cot x} = \frac{1 - \sin x}{|\cos x|} \Rightarrow \frac{1}{|\cos x|} - \tan x = \frac{1}{|\cos x|} - \frac{\sin x}{|\cos x|} \Rightarrow \frac{\sin x}{\cos x} = \frac{\sin x}{|\cos x|}$$

$$\Rightarrow \cos x > 0$$

(2)

$$\cot x = \frac{\cos x}{\sqrt{1 - \cos^2 x}} = \frac{\cos x}{\sqrt{\sin^2 x}} = \frac{\cos x}{|\sin x|} \Rightarrow |\sin x| = \sin x \Rightarrow \sin x > 0$$

$$\sin x > 0, \cos x > 0 \Rightarrow \text{مقد}$$

$$-\frac{\pi}{2} < x < \frac{\pi}{2} \Rightarrow -\frac{\pi}{2} < x < \frac{\pi}{2} \Rightarrow -1 < \sin x < 1 \rightarrow -\frac{1}{r} < \frac{m-1}{r} < 1$$

(1, 25)



دقت! $-r < m-1 < r \Rightarrow -1 < m < 1$

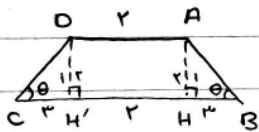
$$\tan x + \cot x = \frac{1}{\sin x \cos x} = -r \Rightarrow \sin x \cos x = -\frac{1}{r} \quad \left| \begin{array}{l} \pi < x < \frac{3\pi}{2} \\ \frac{3\pi}{2} < x < \pi \end{array} \right. \Rightarrow \sin x + \cos x < -r$$

$$\sin^2 x + \cos^2 x = 1 \rightarrow \sin^2 x + \cos^2 x + r \sin x \cos x = \frac{1}{r} \Rightarrow \sin x + \cos x = \sqrt{\frac{1}{r}}$$

(2)

$$\sin^2 x + \cos^2 x = (\sin x + \cos x)^2 - r \sin x \cos x (\sin x + \cos x) \Rightarrow -\frac{1}{r} \times \sqrt{\frac{1}{r}} - r \left(-\frac{1}{r}\right) \left(-\sqrt{\frac{1}{r}}\right) =$$

$$-\frac{r}{r} \sqrt{\frac{1}{r}} \Rightarrow \frac{1}{\sin^2 x + \cos^2 x} = \frac{1}{-\sqrt{\frac{1}{r}}} = -\frac{r}{r} \sqrt{r}$$



$$\triangle AHB \Rightarrow \cos \theta = \frac{BH}{AB} = \frac{BH}{a} = \frac{q}{1} \Rightarrow BH = q$$

$$AH^2 + BH^2 = AB^2 \Rightarrow AH^2 + q^2 = r^2 \Rightarrow AH = \varepsilon$$

$$AB = DC, H_1 = H', C = B = \theta \Rightarrow \triangle ABH \cong \triangle ACH' \Rightarrow CH' = BH = q$$

$$AD \parallel HH', \quad \begin{array}{l} AH \perp BC \\ OH' \perp BC \end{array} \Rightarrow AH \parallel OH', \quad H_2 = q \Rightarrow AD = HH' = r$$

$$S = \frac{1}{r} \times \varepsilon = r$$

$$\tan(r\alpha) \tan(-1\alpha) - \sin(1\alpha) \cos(r\alpha) = -\cot(\alpha) \tan(\alpha) - \sin(\alpha) - \sin(\alpha)$$

$$\tan(r\alpha) = \tan\left(\frac{r\pi}{r} + \alpha\right) = -\cot \alpha$$

$$\tan(-1\alpha) = \tan(\alpha - \pi) = \tan \alpha$$

$$\sin(1\alpha) = \sin(\pi + \alpha) = -\sin \alpha$$

$$\cos(r\alpha) = \cos\left(\frac{r\pi}{r} + \alpha\right) = -\sin \alpha$$

$$\left. \begin{array}{l} -\cos^2 \alpha = k \cos^2 \alpha \\ k = -1 \end{array} \right\}$$

$$A = \sqrt{r} \cos r\alpha \sin r\alpha - \sqrt{r} \sin 1\alpha \cos 1\alpha = \sqrt{r} \left(-\frac{r}{r}\right) - \cos(r\alpha) - \sqrt{r} \left(\frac{r}{r}\right) - \cos r\alpha$$

$$\frac{+r}{r} \cos(r\alpha) + \cos(r\alpha) = \frac{r}{r} \cos r\alpha \quad \frac{\frac{r}{r} \cos r\alpha}{\cos r\alpha} = \frac{r}{r}$$

$$f(x) = 14 \sin^r(rx) \times \cos^r(rx) \times \cos^r(4x) \cos^r(11x) \cos^r(17x) = \frac{r \sin^r(4x) \cos^r(4x) \cos^r(11x) \cos^r(17x)}{\sin^r(rx)}$$

$$= \frac{r \sin^r(17x) \cos^r(17x)}{14 \sin^r(17x)} = \frac{\sin^r(17x)}{14 \sin^r(17x)} = \frac{1}{14} \sin^r(17x)$$

$$f\left(\frac{\pi}{17}\right) = \frac{\sin^r\left(\frac{17\pi}{17}\right)}{14 \sin^r\left(\frac{17\pi}{17}\right)} = \frac{r}{14(r-1)} = \frac{4+17r}{14}$$

$$1 - \sin x = r + \sin x \Rightarrow 2 \sin x = -r \Rightarrow \sin x = \frac{-r}{2} \Rightarrow \sin^2 x = \frac{r^2}{4} \Rightarrow 1 - \sin^2 x = \frac{14}{r^2} \Rightarrow \cos^2 x = \frac{14}{r^2} \Rightarrow \cos x = \pm \frac{\sqrt{14}}{r}$$

$$\tan x = \frac{\sin x}{1 + \cos x} = \frac{-\frac{r}{2}}{1 + \frac{\sqrt{14}}{r}} \Rightarrow \cos x = \frac{14}{r^2} \Rightarrow \cos x = \pm \frac{\sqrt{14}}{r}$$

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

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

$$\frac{\sin \theta}{1 - \cos \theta} + \frac{1 + \cos \theta}{\sin \theta} = r \cot \frac{\theta}{r} = k \cot \frac{\theta}{r} \Rightarrow k = r$$

$$\sin x = \frac{\sqrt{r}}{1} \Rightarrow \sin^2 x = \frac{r}{1} \Rightarrow 1 - \sin^2 x = \cos^2 x = \frac{14}{r} \Rightarrow \cos x = \pm \frac{\sqrt{14}}{r}$$

$$\cos\left(\frac{11\pi}{2} + x\right) = \cos\left(\frac{11\pi}{2}\right) \cos x - \sin\left(\frac{11\pi}{2}\right) \sin x = \left(-\frac{\sqrt{r}}{r}\right) \left(-\frac{\sqrt{14}}{r}\right) - \left(\frac{\sqrt{r}}{r}\right) \left(\frac{\sqrt{r}}{1}\right) = \frac{14}{r} = \frac{4}{r}$$