

سأره ۲۸:

کلاس: یازدهم پیر B

تاریخ: ...

$$\frac{1}{\sqrt{\cos \alpha}} = \frac{1}{|\cos \alpha|} \Rightarrow \frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 - \sin \alpha}{|\cos \alpha|}$$

برای ساده شدن طرفین نیاز است $\cos \alpha$ مثبت باشد لذا در این حالت باید α از ربع اول باشد.

$$\cot \alpha = \frac{\cos \alpha}{|\sin \alpha|} \Rightarrow \left. \begin{array}{l} \cos \alpha > 0 \\ \sin \alpha > 0 \end{array} \right\} \Rightarrow \text{در این حالت هر دو مثبت است.}$$

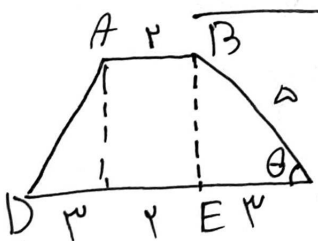
$$-\frac{\pi}{12} < \alpha < \frac{5\pi}{12} \Rightarrow -\frac{\pi}{5} < \tan \alpha < \frac{5\pi}{5} \Rightarrow -1 < \sin \alpha < 1$$

$$\Rightarrow -\frac{1}{5} < \frac{m-1}{5} < 1 \Rightarrow -2 < m-1 < 5 \Rightarrow -1 < m < 6 \Rightarrow m \in (-1, 6]$$

$$\tan \alpha + \cot \alpha = -2 \Rightarrow \frac{1}{\sin \alpha \cos \alpha} = -2 \Rightarrow \sin \alpha \cos \alpha = -\frac{1}{2}$$

$$(\sin \alpha + \cos \alpha)^2 = \sin^2 \alpha + \cos^2 \alpha + 2 \sin \alpha \cos \alpha \Rightarrow \sin \alpha + \cos \alpha = \frac{\sqrt{3}}{2}$$

$$\frac{\pi}{5} < \alpha < \pi \Rightarrow \frac{1 + (-\frac{1}{2})}{2} = \frac{1}{4} \Rightarrow \frac{1}{\sin \alpha + \cos \alpha} = \frac{1}{(-\frac{\sqrt{3}}{2})(1 + \frac{1}{2})} = \frac{-4}{3\sqrt{3}}$$



$$\Rightarrow \cos \theta = \frac{4}{5} \Rightarrow \frac{EC}{BC} = \frac{4}{5} \Rightarrow EC = 4$$

$$\sin \theta = \sqrt{1 - \cos^2 \theta} = \frac{3}{5} \Rightarrow \frac{BE}{BC} = \frac{3}{5} \Rightarrow BE = 3$$

$$S_{\text{مربع}} = \frac{1}{2} \times (AB + DC) \times h \Rightarrow \frac{1}{2} \times (1+2) \times 4 = 6$$

$$\tan(\frac{\pi}{4} + \alpha) \times \tan(\pi + \alpha) - \sin(\alpha) \times \cos(\frac{\pi}{4} - \alpha) = K \cos^2 \alpha$$

$$\Rightarrow -\cot(\alpha) \times \tan(\alpha) - \sin(\alpha) \times \cos(\alpha) = K \cos^2 \alpha$$

$$\Rightarrow K = -1$$

$$A = \sqrt{V} \cos(\gamma V) \times \sin\left(\frac{\pi \gamma V}{V} - \gamma V\right) - \sqrt{V} \sin(\gamma V) \times \cos(\gamma V - \gamma V)$$

$$\Rightarrow A = \sqrt{V} \times \frac{\sqrt{V}}{V} \times \cos(\gamma V) - \sqrt{V} \times \frac{\sqrt{V}}{V} \times \cos(\gamma V) \Rightarrow -\frac{V}{V} \times \cos(\gamma V) + \cos(\gamma V) \leq$$

$$\Rightarrow \frac{V}{V} \cos(\gamma V) + \cos(\gamma V) = \frac{2}{V} \cos(\gamma V) = A \Rightarrow \frac{A}{\cos(\gamma V)} = \frac{2}{V}$$

$$f(m) = \frac{1}{V} \times \frac{(1 + \cos 5m)}{V} \times \frac{(1 + \cos 10m)}{V} \times \frac{(1 + \cos 15m)}{V} \times \frac{(1 + \cos 20m)}{V}$$

$$f\left(\frac{\pi}{5}\right) = \left(1 + \cos \frac{\pi}{5}\right) \times \left(1 + \cos \frac{2\pi}{5}\right) \times \left(1 + \cos \frac{3\pi}{5}\right) \times \left(1 + \cos \frac{4\pi}{5}\right) \frac{1}{V}$$

$$\Rightarrow \left(1 + \frac{\sqrt{5}}{V}\right) \left(1 + \frac{1}{V}\right) \left(1 - \frac{1}{V}\right) \left(1 - \frac{1}{V}\right) = \frac{5 + \sqrt{5}V}{V^2}$$

$$\frac{1 - \sin m}{1 + \sin m} = \frac{1}{V} \Rightarrow 1 - \sin m = \frac{1}{V} + \sin m \Rightarrow \sin m = -\frac{1}{2V} \Rightarrow \cos m = -\frac{1}{2V}$$

$$\tan m = \frac{1}{V} \Rightarrow \tan m = \frac{V \tan \frac{m}{V}}{1 - \tan^2 \frac{m}{V}} = \frac{1}{V} \Rightarrow V \tan^2 \frac{m}{V} + \tan m - V = 0$$

$$\Rightarrow \tan \frac{m}{V} = \frac{-1 \pm 1}{V} = -\frac{1}{V}$$

$$-V = \frac{1}{V}$$

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

$$= V \cot \frac{\theta}{V} \Rightarrow K = V$$

$$\cos\left(\frac{11\pi}{5} + \alpha\right) \Rightarrow \cos\left(\frac{11\pi}{5}\right) \cos \alpha - \sin\left(\frac{11\pi}{5}\right) \sin \alpha$$

$$\sin \alpha = \frac{\sqrt{V}}{10} \quad \cos \alpha = -\frac{\sqrt{V}}{10}$$

$$\Rightarrow \left(\frac{-\sqrt{V}}{V} \times \frac{-\sqrt{V}}{10}\right) - \left(\frac{\sqrt{V}}{V} \times \frac{\sqrt{V}}{10}\right) = \frac{5}{10}$$