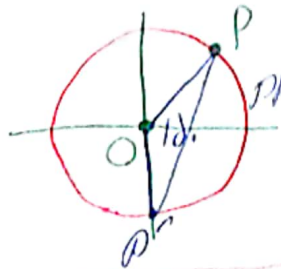


$$\frac{a \sin \frac{\pi}{6} + b \cos \frac{\sqrt{3}}{2}}{a \sin \frac{11\pi}{6} + b \cos \frac{\pi}{6}} = \tan \frac{\pi}{3} \quad \frac{b}{a} = ? \quad -\frac{ca}{a} = -c$$

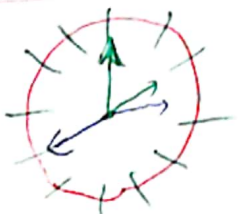
$$-\frac{\sqrt{3}}{2}a - \frac{\sqrt{3}}{2}b = \frac{1}{\sqrt{3}} \rightarrow -\frac{c}{2}a - \frac{c}{2}b = -\frac{a}{2} + \frac{b}{2} \rightarrow \frac{ca}{2} = \frac{cb}{2} \rightarrow b = -a$$

$$P(\frac{1}{2}, \sqrt{3}) \rightarrow r = \frac{1}{2} \rightarrow 90^\circ$$



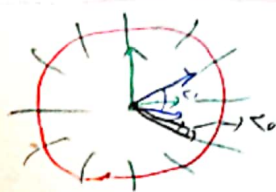
$$PP' = \sqrt{OP^2 + OP'^2 - 2(OP)(OP') \cos 0} = \sqrt{1 + 1 - 2 \times \frac{\sqrt{3}}{2}} = \sqrt{2 + \sqrt{3}}$$

$$1 + 1 + \sqrt{2 + \sqrt{3}} = 2 + \sqrt{2 + \sqrt{3}}$$



$$\frac{\pi}{9} \times \frac{11}{12} = 20 \rightarrow 2:40$$

$$\frac{24}{12} = 2 \rightarrow 2:00 \rightarrow \text{فرمانت به درج}$$



بعضی شکل بد شد و 3 ساعت 2 دقیقه بدل به 2:40
زاویه بین عقربه ساعت شمار و دقیقه شمار 20 می شود

$$30^\circ - 10^\circ = 20$$

بار اول
بار دوم

$$\tan 10^\circ = 0.176$$

$$\frac{\sin 10}{\cos 10} = \frac{1}{5}$$

$$\cos 10 = 5$$

$$\sin 10 = 1$$

$$\frac{\sin(100^\circ) + K \cos(50^\circ)}{\cos(140^\circ) + 2 \sin(190^\circ)} = 2 \quad K = ?$$

$$\frac{\sin 10 - K \sin 10}{-\cos 10 - 2 \sin 10} = \frac{1-K}{-1-2} = 2 \rightarrow 1-K = -12-2$$

$$K = 22$$

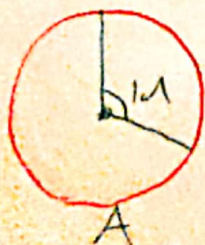
$$\sin m = \frac{m-\pi}{\pi} \quad \frac{\pi}{6} < m < \frac{5\pi}{6} \rightarrow -\frac{1}{2} < \sin m < 1 \rightarrow -\frac{1}{2} < \frac{m-\pi}{\pi} < 1$$

$$\frac{\pi}{6} < m < \frac{5\pi}{6}$$

$$m \in \left[-\frac{1}{2}, 1\right]$$

$$\frac{1}{2} < m < 1$$

$$1.8 \times \frac{\pi}{180} = \frac{6\pi}{10}$$



$$\frac{9\pi}{10} \times v_B = \frac{4\pi}{10} \times v_A$$

$$9v_B = 4v_A \rightarrow v_A = \frac{9}{4}v_B \rightarrow S_A = \frac{9}{4}S_B$$

$$S_A = \frac{9}{4}S_B$$

$$\frac{1 - \cos m}{1 + \cos m} = \tau$$

$$\tan\left(\frac{\pi}{2} - n\right) = \cot(\pi - n)$$

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

$$\cot\left(\frac{\pi}{2} - n\right) + \tau \tan(\pi - n)$$

$$\cos n = -1 \rightarrow \cos n = -\frac{1}{\tau} \xrightarrow{\text{approx } 0} \sin > 0 \quad \tan < 0 \quad \cot < 0$$

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

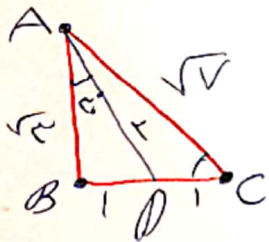
$$\cot = -\frac{1}{\sqrt{\tau - 1}}$$

$$\frac{\cot n + \cot m}{\tan n - \tau \tan m} = \frac{\tau \cot}{-\tan} = \frac{-\frac{\sqrt{\tau - 1}}{\sqrt{\tau}}}{-\sqrt{\tau}} = \frac{\tau}{\tau - 1} = \frac{1}{\tau}$$

$$S_{ABC} = \sqrt{\tau}$$

$$\sin \hat{C} = ?$$

$$\sin C = \frac{\sqrt{\tau}}{\sqrt{\tau}}$$



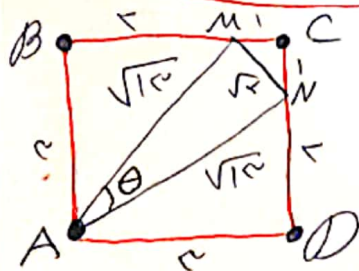
$$\tau - 1 = \tau \rightarrow AB = \sqrt{\tau}$$

$$\cos C = \frac{\tau}{\sqrt{\tau}}$$

$$\frac{1}{2} \times \sqrt{\tau} \times BC = \sqrt{\tau} \rightarrow BC = 2 \rightarrow DC = 1$$

$$\tau + \tau = \tau \rightarrow AC = \sqrt{\tau}$$

$$\sin \hat{C} = \tau \sin C \cos C = \tau \times \frac{\sqrt{\tau}}{\sqrt{\tau}} \times \frac{\tau}{\sqrt{\tau}} = \frac{\tau \sqrt{\tau}}{\sqrt{\tau}}$$



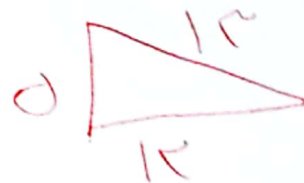
$$\sin \theta = ?$$

$$MN = \sqrt{(AM)^2 + (AN)^2 - (AM)(AN) \cos \theta}$$

$$\tau = \tau^2 - \tau^2 \cos \theta \rightarrow \tau^2 \cos \theta = (\tau - 1) \cos \theta = \frac{\tau - 1}{\tau}$$

$$\sin \theta = \frac{d}{\tau}$$

$$\sin \theta = \frac{d}{\tau}$$



B (10/10)

Good job