

الف) $AD \times \sin \gamma_0 = AB \Rightarrow AD \times \frac{\sqrt{p}}{p} = 100 \frac{\sqrt{p}}{p} \Rightarrow AD = 100$ (مسألة ٣)

$$AC = x \sin \mu_0 = AB \Rightarrow AC \times \frac{1}{r} = \omega_0 \sqrt{\mu} \Rightarrow AC = 100 \sqrt{\mu}$$

$$BD = AD \times \cos \phi_0 = 100 \times \frac{1}{r} = 200$$

$$AB^T + BC^T = AC^T \Rightarrow (a \circ \sqrt{r})^T + BC^T = (1 \circ \sqrt{r})^T \Rightarrow r_x a \circ^T + BC^T = r_x 1 \circ^T$$

$$\Rightarrow BC^T = P(I_{n \times n} - \omega_0 \omega_0^T) = P(\omega_0 \omega_0^T) \left(\frac{P^T}{P} - I \right) \Rightarrow BC = P \times \omega_0 = \omega_0$$

$$BC = BD + x \Rightarrow 100 = 20 + x \Rightarrow DC = x = 100$$

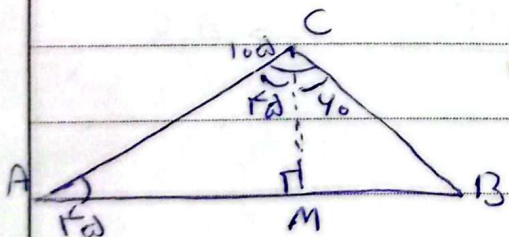
∴) $BC = AC \times \sin \theta = AC \times \frac{\sqrt{r}}{r} \Rightarrow BC = r \times \frac{\sqrt{r}}{r} = \sqrt{r}$

$$BA = AC \times \cos \gamma \Rightarrow AC \times \frac{1}{p} = r \Rightarrow AC = pr$$

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$$BD^T + BC^T - DC^T \Rightarrow 1 + \frac{1}{(\gamma\sqrt{\mu})^T} = DC^T \Rightarrow DC = \sqrt{1\mu}$$

$$\sin \alpha = \frac{DB}{DC} = \frac{1}{\sqrt{1^2}} = \frac{\sqrt{1^2}}{1^2}$$



$\sin 60^\circ \leftarrow$
 $CM = AM = \frac{\sqrt{P}}{P} AC \Rightarrow AC = \frac{CM \times \sqrt{P}}{\frac{\sqrt{P}}{P}} = \frac{\sqrt{P} CM}{1}$

$$\frac{CM}{AM} = \tan \varphi_{\omega} = 1 \Rightarrow MA = CM$$

$$\frac{MB}{CM} = \tan \phi_0 = \frac{\sin \phi_0}{\cos \phi_0} = \frac{\frac{\sqrt{P}}{P}}{\frac{1}{P}} = \sqrt{P} \Rightarrow CM \times \sqrt{P} = MB \quad \left. \begin{array}{l} CM + \sqrt{P} CM = \\ (1 + \sqrt{P}) CM \end{array} \right\}$$

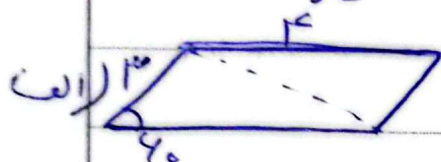
$$\frac{AB}{AC} = \frac{(1+\sqrt{r}) \times CM}{\sqrt{r} CM} = \frac{1+\sqrt{r}}{\sqrt{r}} = \frac{\sqrt{r} + \sqrt{r}}{r}$$

(a) سوال

$$\frac{AB}{BC} = \frac{EB}{BD} = \frac{EA}{CD} = \frac{r}{4} = \frac{1}{r} \Rightarrow \frac{S_{\triangle ABE}}{S_{\triangle BCD}} = k^2 = \left(\frac{r}{4}\right)^2$$

$$\left. \begin{array}{l} \hat{B}_1 = \hat{B}_r = \hat{D} \\ \frac{EB}{BD} = \frac{BA}{BC} = k \end{array} \right\} \Rightarrow \triangle ABE \sim \triangle BCD$$

$$\frac{EB}{BD} = \frac{BA}{BC} = k$$



$$S_{\square} = \frac{1}{2} ab \sin \gamma_0 = r \times r \times \frac{\sqrt{r}}{r} = 4\sqrt{r}$$

(4 سوال)

$$= 4\sqrt{r}$$

$$\rightarrow r \times r \times \frac{1}{r} \times \sin \frac{\pi}{4} = 4\sqrt{r}$$

$$\tan \theta = \frac{r-r}{r-(-1)} = \frac{r}{r} = 1$$

$$1 + \tan^2 \theta = \frac{1}{\cos^2 \theta}$$

(5 سوال)

 $\Rightarrow$

$$1 + \frac{1}{r} = \frac{1}{\cos^2 \theta} \Rightarrow \cos^2 \theta = \frac{r}{r+1} \Rightarrow \cos \theta = \frac{r}{\sqrt{r+1}}$$

$$0 < \theta < 90^\circ \Rightarrow \cos \theta > 0$$

$$r y = r x + a \Rightarrow r y = 0 + a \Rightarrow y = r, a$$

(6 سوال)

$$x=0 \Rightarrow y = r, a$$

$$\Rightarrow y = m x + b \Rightarrow b = r, a$$

$$\Rightarrow b m = r, a \times 1$$

$$\left. \begin{array}{l} r y = r x + a \Rightarrow y = x + r, a \\ y = m x + r, a \end{array} \right\} \Rightarrow m = 1$$

$$= r, a$$

$$f(n) = -\cos(n) + \cos(n) - (\cot(n)) =$$

(7 سوال)

$$-\cancel{\cos(n)} + \cancel{\cos n} + \cot n$$

$$f(n) = \cot n \Rightarrow f\left(\frac{\pi}{4}\right) = \cot\left(\frac{\pi}{4}\right) = \cot(45^\circ) = \frac{\cos 45^\circ}{\sin 45^\circ}$$

Arman

$$\frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = -1$$

$$\frac{\cos(n) + (-\sin(n))}{-\cos(n) - (-\sin(n))} = \frac{\cos(n) - \sin n}{-\cos n + \sin n} = \text{سوال 10} = \textcircled{-1}$$