

الاسياني ١٩/٢٥ آخرين (٣) ★

نقطه مرتب ترينوسي مستقيم

(١,٧٥)

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

ب) $\frac{1+3x}{4x+\frac{1}{x}+2x\frac{1}{x}} = \frac{1}{2}$

$\left(\frac{\sqrt{2}}{2} \right)^2 - \left(\frac{\sqrt{3}}{2} \right)^2 = \frac{2}{4} - \frac{3}{4} = -\frac{1}{4}$

وتر $\frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$ طلع و وتر زاویه

الف) $AH = \frac{\sqrt{2}}{2} \times \sqrt{6} = \frac{\sqrt{12}}{2}$

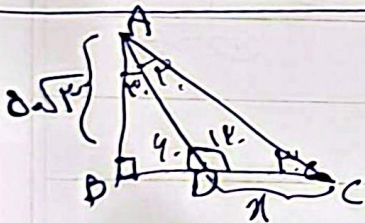
$(HC)^2 = (2\sqrt{3})^2 - \left(\frac{\sqrt{12}}{2} \right)^2 = 12 - 3$

② $\Rightarrow HC = \sqrt{9} = 3$

ب) $\sin 30^\circ = \frac{1}{2} = \frac{AH}{AC} \Rightarrow AH = 3\sqrt{3}$

$\cos 30^\circ = \frac{\sqrt{3}}{2} = \frac{4\sqrt{3}}{AC} \Rightarrow AC = 4\sqrt{3}$

$\sin \beta = \frac{3\sqrt{3}}{4\sqrt{3}} = \frac{3}{4} = \frac{\sqrt{5}}{2} \Rightarrow \beta = 45^\circ$



الف) $\frac{\sqrt{3}}{2} AD = AB \Rightarrow AD = 1$

$BD = 20\sqrt{3} \Rightarrow \alpha = 1$

ب) $\frac{1}{2} \alpha = 2 \Rightarrow \alpha = 4$

$\left(\frac{\sqrt{12}}{2} \right)^2 + 1^2 = (DC)^2 \Rightarrow DC = \sqrt{4}$

$\sin \alpha = \frac{1}{\sqrt{12}} = \frac{\sqrt{12}}{12}$



$\frac{\sqrt{3}}{2} AC = \frac{\alpha}{2} \Rightarrow AC = \frac{\alpha}{\sqrt{3}}$

$\frac{AB}{AC} = \frac{\alpha + \frac{\sqrt{3}\alpha}{2}}{\frac{\alpha}{\sqrt{3}}}$

$\frac{\sqrt{2}+\sqrt{6}}{2}$

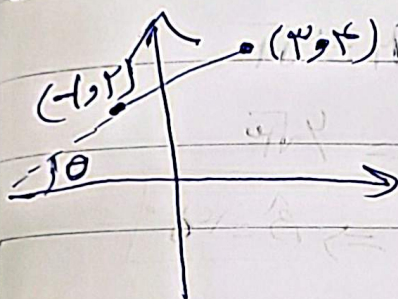
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$$\frac{1}{2} ab \sin \hat{C} \quad p_1 = B_1$$

$$\frac{S_{ABC}}{S_{ABD}} = \frac{\frac{1}{2} \times 1 \times 1 \times \sin B_1}{\frac{1}{2} \times 1 \times 1 \times \sin B_1} = 1$$

$$(a) \quad \frac{1}{2} \times 1 \times 1 \times \sin 45^\circ = \frac{1}{2} \sqrt{2}$$

$$\hookrightarrow \frac{1}{2} \times 1 \times 1 \times \frac{1}{\sqrt{2}} = \frac{1}{2\sqrt{2}}$$

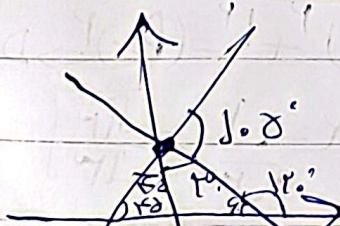


$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - 2}{3 - (-1)} = \frac{2}{4} = \frac{1}{2}$$

$$\tan \theta = \frac{1}{2}$$

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

$$\cos \theta = \frac{2}{\sqrt{5}}$$



$$y = mx + b = \sqrt{3}x + \frac{2}{\sqrt{3}}$$

$$y = \frac{2}{\sqrt{3}} + 0$$

$$y = \frac{2}{\sqrt{3}} + 0$$

$$\tan^{-1} \frac{2}{\sqrt{3}} = \frac{\pi}{3}$$

$$m = \frac{2}{\sqrt{3}}$$

$$b = \frac{2}{\sqrt{3}}$$

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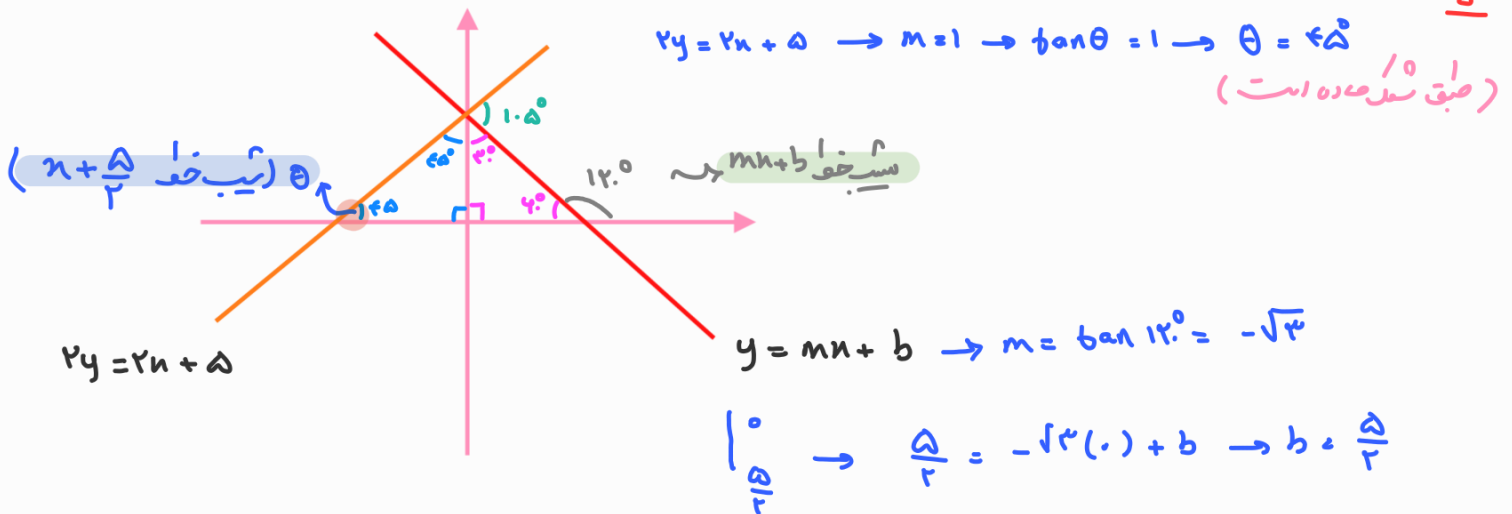
$$\textcircled{A} \quad -\cos x + \cos x + \cancel{\cos x} \Rightarrow \cot\left(\frac{\cancel{\cos x}}{4}\right) = \frac{-\sqrt{2}}{\sqrt{2}} \quad \text{10.1}^{\circ} \quad -\sqrt{2}$$

$$\textcircled{B} \quad \frac{\cos x - \sin x}{-\cos x + \sin x} = \frac{(-\cos x + \sin x)}{-\cos x + \sin x} = 1 \quad \text{2}$$

$$\text{ج) } (\sin 135^\circ + \sin 45^\circ)(\cos 135^\circ - \cos 135^\circ)$$

$$\left(\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{2}}{2} - (-\frac{\sqrt{2}}{2})\right) = \left(\frac{\sqrt{2}}{2}\right)^2 - \left(\frac{\sqrt{2}}{2}\right)^2 = \frac{1}{2} - \frac{1}{2} = \boxed{-\frac{1}{4}}$$

$$\hookrightarrow \frac{1 + \tan^2 45^\circ}{\cos^2 45^\circ + \cos^2 135^\circ} = \frac{1 + 1\left(\frac{\sqrt{2}}{2}\right)^2}{\cos^2\left(\frac{\sqrt{2}}{2}\right)^2 + 1\left(-\frac{\sqrt{2}}{2}\right)^2} = \frac{1 + 1}{1 + 1} = \boxed{\frac{1}{2}}$$



$$mb = -\sqrt{3} \times \frac{a}{r} = -\frac{a\sqrt{3}}{r}$$

$$\underbrace{(\pi + \pi)}_{-\cos \pi} + \underbrace{\sin\left(\frac{\pi}{2} - \pi\right)}_{\cos \pi} - \tan\left(\frac{\pi}{2} + \pi\right)_{\cot \pi}$$

$$f(\pi) = \cot \pi \rightarrow f\left(\frac{\omega \pi}{4}\right) = \cot\left(\frac{\omega \pi}{4}\right) = -\sqrt{3}$$