

الف) $\left(\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}\right) \left(\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2}\right) \Rightarrow \frac{2}{4} - \frac{2}{4} = -\frac{1}{2}$ ★ ۲. بهترین (۳) ★

ب) $\tan 45^\circ = \frac{\sqrt{2}}{2} \rightarrow \tan^2 45^\circ = \frac{1}{2}$

$\cos 45^\circ = \frac{\sqrt{2}}{2} \rightarrow \cos^2 45^\circ = \frac{1}{2}$

$\cos 135^\circ = -\frac{\sqrt{2}}{2} \rightarrow \cos^2 135^\circ = \frac{1}{2}$

$\frac{1 + 2\left(\frac{1}{2}\right)}{2\left(\frac{1}{2}\right) + 2\left(\frac{1}{2}\right)} = \frac{2}{2} = 1$

۲

②

الف) $\cos, \sin 45^\circ = \frac{\sqrt{2}}{2}$ $\frac{\sqrt{2}}{2} \cdot \frac{\sqrt{2}}{2} \rightarrow (\sqrt{2})^2 + 0 = (1\sqrt{2})^2 \rightarrow \triangle AHC$

$\rightarrow 2 + 0 = 1^2$
 $\rightarrow 4 = 1^2 \rightarrow 4 = 1$
 $\rightarrow 4 = 1$

۲

ب) $\tan 45^\circ = \frac{\sqrt{2}}{2}$

$AH = \frac{\sqrt{2}}{2} \cdot \frac{2\sqrt{2}}{2}$

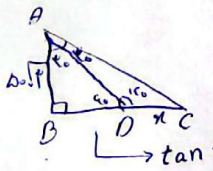
$\cos 45^\circ = \frac{\sqrt{2}}{2}$

$AC = \frac{\sqrt{2}}{2} \cdot \frac{2}{2\sqrt{2}}$

$\frac{AH}{AB} = \sin \beta \rightarrow \frac{2\sqrt{2}}{2\sqrt{2}} \rightarrow \frac{\sqrt{2}}{\sqrt{2}} \Rightarrow \frac{\sqrt{2}}{2} \Rightarrow \frac{2\sqrt{2}}{2} = \frac{\sqrt{2}}{1}$ ۲

③

الف)



$\tan 45^\circ = \sqrt{2}$

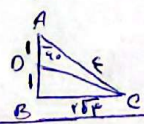
$\frac{\sqrt{2}}{1} \cdot \frac{1}{0.5\sqrt{2}}$

$BC - BD = x \rightarrow 1.5 - 0.5 = 1$

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$\frac{\sqrt{2}}{2} \cdot \frac{2}{2\sqrt{2}}$

ب)



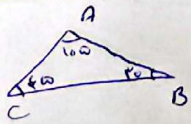
$\cos 45^\circ = \frac{1}{2} \rightarrow \frac{1}{2}$

$\sin 45^\circ = \frac{\sqrt{2}}{2} \rightarrow \frac{\sqrt{2}}{2}$

$1 + (\sqrt{2})^2 = DC^2$
 $1 + 2 = 1^2 \rightarrow DC = \sqrt{2}$

$\sin \alpha = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

④



$\frac{AB}{\sin C} = \frac{AC}{\sin B} = \frac{BC}{\sin A} \rightarrow \frac{AB}{\sin C} = \frac{AC}{\sin B} \rightarrow \frac{AB}{AC} = \frac{\sin C}{\sin B} \rightarrow \frac{AB}{AC} = \frac{\sin 60}{\sin 45}$

$\sin 60 \rightarrow \sin(45 + 15) \rightarrow \sin 45 \cos 15 + \cos 45 \sin 15 \rightarrow \frac{\sqrt{2} + \sqrt{2}}{2}$

$\frac{\sin 60}{\sin 45} = \frac{\frac{\sqrt{2} + \sqrt{2}}{2}}{\frac{1}{2}} \rightarrow \frac{\sqrt{2} + \sqrt{2}}{1}$ ۲

⑤

مساحت مثلث $\rightarrow$ مساحت مثلث

$S = \frac{AB \sin \alpha}{2} \rightarrow \frac{2 \times 2 \times \sin 60}{2 \times 2 \times \sin 45} = \frac{2 \times 2}{2 \times 2} = \frac{1}{1} = \frac{1}{1}$

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$$الف) \quad r \left(\frac{r \times \epsilon \times \sin 15^\circ}{r} \right) \rightarrow r \times \epsilon \times \frac{\sqrt{r}}{r} = \epsilon \sqrt{r}$$

$$ب) \quad \frac{1}{r} a b \sin \alpha \rightarrow \frac{1}{r} \times r \times \epsilon \times \frac{\sqrt{r}}{r} \rightarrow \epsilon \sqrt{r}$$

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

$$\begin{array}{c} \sqrt{a} \\ \triangle \\ r \end{array} \rightarrow \cos = \frac{r}{\sqrt{a}} \rightarrow \frac{r\sqrt{a}}{a}$$

$$\tan \theta = \frac{m \tan \alpha}{1 + m_1 m_2} \rightarrow \frac{\tan 45^\circ + \tan \epsilon \omega}{1 + \tan 45^\circ \tan \epsilon \omega} \rightarrow \frac{\sqrt{r} - 1}{1 + \sqrt{r}} = \left| \frac{m-1}{1+m} \right| = r + \sqrt{r}$$

$$\frac{m-1}{1+m} = \sqrt{r} \quad m = -\sqrt{r} \quad \text{نسبت ضلع‌ها}$$

$$-\sqrt{r} \times \frac{\omega}{r} \rightarrow -\frac{\omega \sqrt{r}}{r}$$

$$5 - x + \frac{\omega}{r} \rightarrow \frac{\omega}{r} = 6$$

هر دو از این نقطه از عرض از مبدا ای گذرند - عرض از مبدا ی

$$f(x) = -\cos x + \cos(-\cot) \rightarrow \cot x$$

$$f\left(\frac{\omega \pi}{4}\right) \rightarrow \cot 150^\circ \rightarrow -\sqrt{r}$$

$$A \pi + \frac{\pi}{r} \rightarrow \sin\left(\frac{14\pi}{r} + \pi\right) \rightarrow \sin\left(\frac{14\pi}{r} + \pi\right) = \cos x$$

$$4\pi + \frac{4\pi}{r} \rightarrow \cos\left(\frac{16\pi}{r} + \pi\right) \rightarrow \cos\left(\frac{16\pi}{r} + \pi\right) = -\sin x$$

$$\left. \begin{array}{l} \cos x - \sin x \\ \sin x - \cos x \end{array} \right\} \text{صورت}$$

$$\cos(4\pi + x) \rightarrow \cos(\pi + x) \rightarrow -\cos x$$

$$\sin(4\pi - x) = \sin(-x) \rightarrow -\sin x$$

$$\left. \begin{array}{l} \sin x - \cos x \end{array} \right\} \text{مخرج}$$

$$\frac{\cos x - \sin x}{\sin x - \cos x} = \frac{\cos x - \sin x}{-(\cos x - \sin x)} = -1$$