

الف) $(\sin 135^\circ + \sin 30^\circ) (\cos 135^\circ - \cos 150^\circ)$

$$\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} \quad \frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}$$

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

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

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

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

$$(\sqrt{2}-\sqrt{2})(\sqrt{2}-\sqrt{2}) \rightarrow \sqrt{2}-\sqrt{2} \rightarrow 2-2\sqrt{2}$$

ب) $\tan 45^\circ \rightarrow 1 \rightarrow 2$
 $\cos 45^\circ \rightarrow 2 \rightarrow 1$

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

$$AH = \frac{\sqrt{2}}{2} = 1 \rightarrow (HC)^2 = 1^2$$

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ج) $AH = \frac{1}{\sqrt{2}} = \frac{AH}{2} \Rightarrow AH = \frac{2}{\sqrt{2}}$

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

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

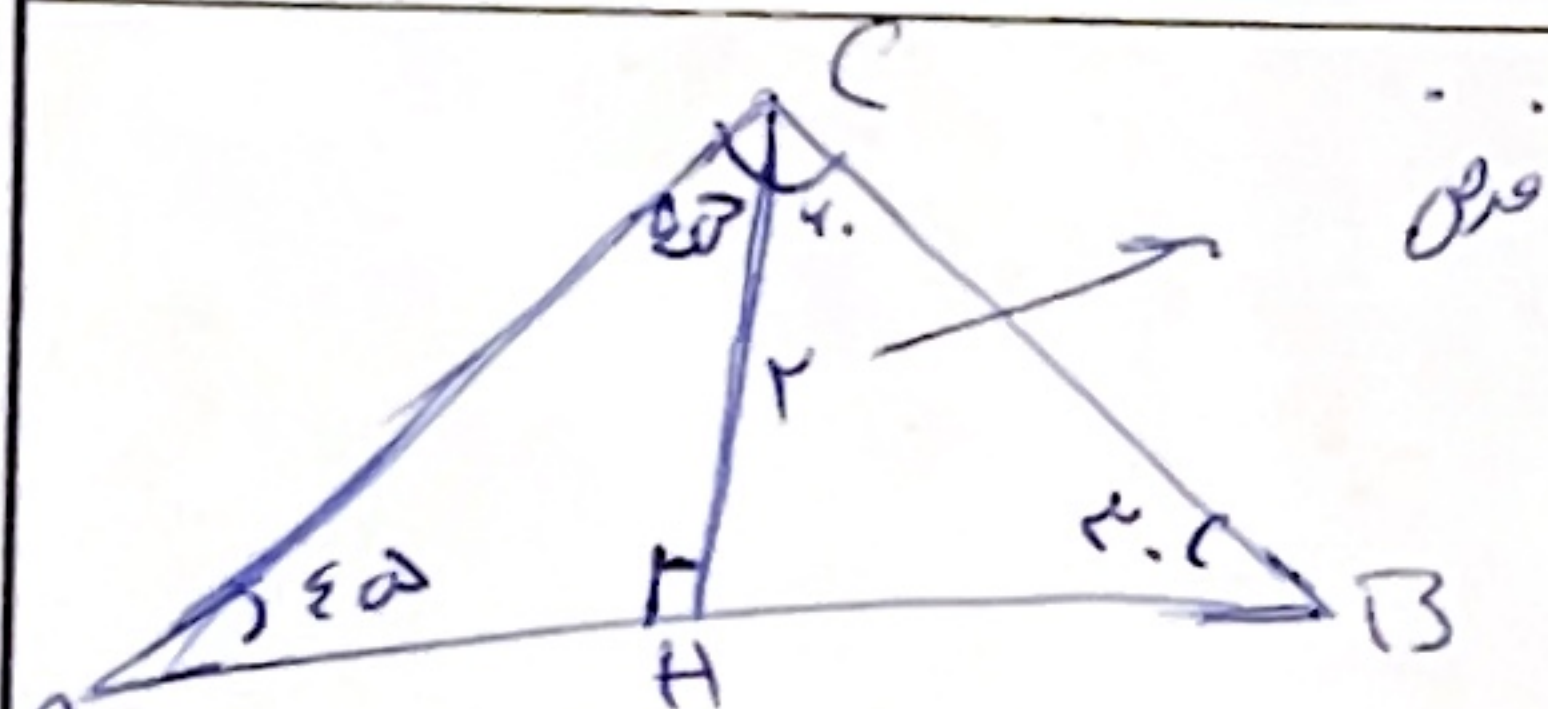
د) $BD = \frac{\sqrt{2}}{1} = \frac{2\sqrt{2}}{BD} \rightarrow BD = \frac{2\sqrt{2}}{\sqrt{2}} = 2$

$$\tan 45^\circ = \frac{1}{\sqrt{2}} = \frac{2\sqrt{2}}{2+2} = 2+2=4$$

$$x=4$$

ه) $\tan 45^\circ = \frac{\sqrt{2}}{1} = \frac{BC}{2} \rightarrow BC = 2\sqrt{2} \rightarrow DC = 1+1=2$
 $DC^2 = 1^2 \rightarrow DC = 1$

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



$$AH = \frac{\sqrt{2}}{2} = \frac{AH}{2\sqrt{2}} \rightarrow AH = 1$$

$$\frac{4+2\sqrt{2}}{2} \rightarrow \frac{4+2\sqrt{2}}{2}$$

$$\frac{4+2\sqrt{2}}{2} = \frac{2+2\sqrt{2}}{1}$$

$$\frac{2+2\sqrt{2}}{1} = \frac{2(1+\sqrt{2})}{1}$$

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$$\frac{\sqrt{2}}{2} = \frac{2}{AC} \rightarrow AC = \frac{4}{\sqrt{2}} = 2\sqrt{2}$$

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$$HB \rightarrow \frac{\sqrt{2}}{1} = \frac{2}{HB} \rightarrow HB = 2$$

$$HB = \frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2}$$

$$\frac{S_{ABE}}{S_{BCD}} \rightarrow \frac{\sin 135^\circ \times \frac{1}{2} \times 2 \times 2}{\sin 135^\circ \times \frac{1}{2} \times 4 \times 2} = \frac{2}{4}$$

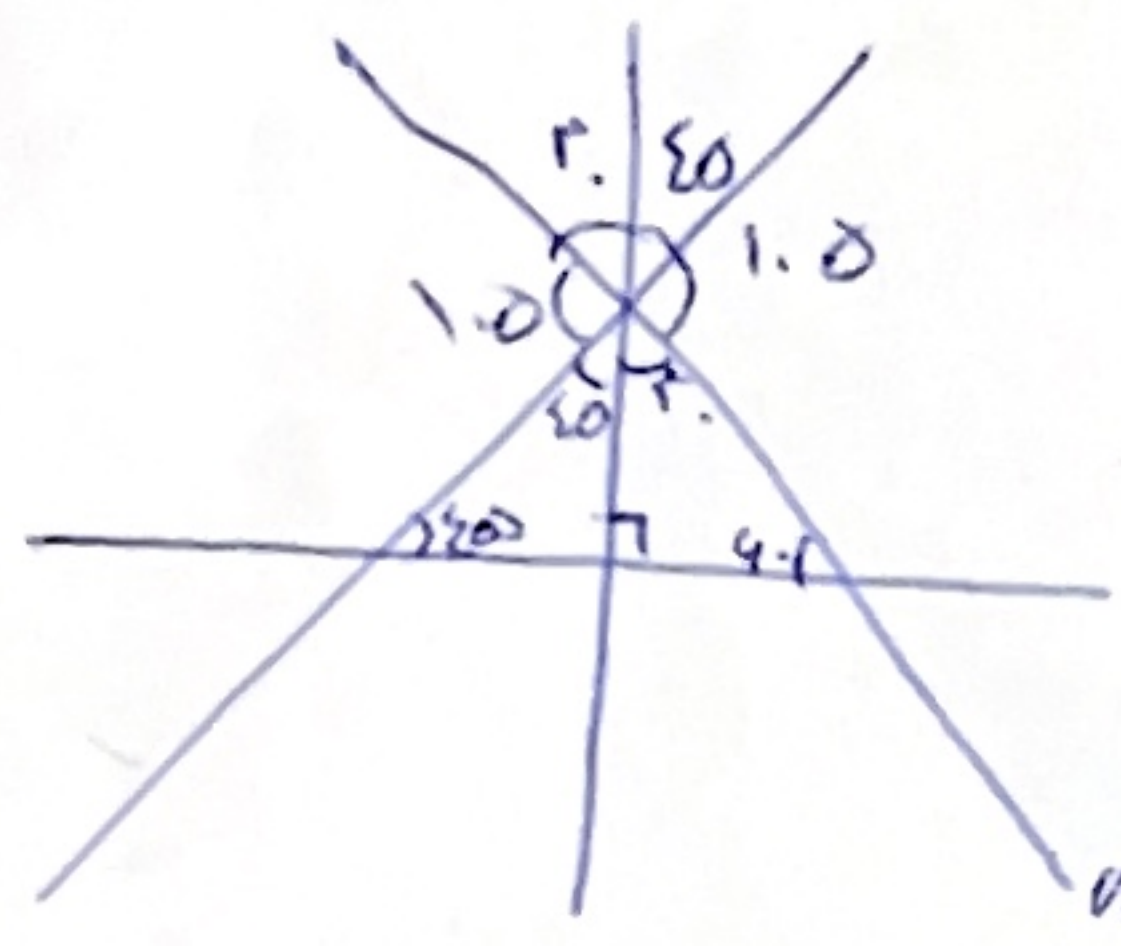
$$\sin 120^\circ \times \Sigma \times r_x \times \frac{1}{r} \times r = 120^\circ \times \frac{\sqrt{r}}{r} = 90\sqrt{r}$$

الف)

$$\frac{\sin 110^\circ \times r \times s}{r} = \frac{\sqrt{r}}{r} \times r \times r = \frac{r\sqrt{r}}{r} = r\sqrt{r}$$

$$\frac{y_r - y_1}{x_r - x_1} = \tan \rightarrow \frac{z - r}{r+1} \rightarrow \frac{1}{r}$$

$$\tan^r + 1 = \frac{1}{\cos^r} \rightarrow \left(\frac{1}{r}\right)^r + 1 = \frac{1}{\cos^r} \quad \cos^r = \frac{1}{\sqrt{r}} \quad \cos = \frac{1}{\sqrt{r}}$$



$$m = -\tan \theta, \quad z = \sqrt{r}$$

$$m \vee b = -\sqrt{r} + \frac{\delta}{r}$$

$$b = \frac{a}{r}$$

$$\alpha = \sum \alpha_i$$

$$r_y = r_x + \delta - y = x + \frac{\delta}{r} \Rightarrow \tan = 1$$

$$\frac{1}{r} \left(\frac{\partial \pi}{\partial r} \right) = \cos \left(\frac{\partial \pi}{\partial r} + \frac{q \pi}{4} \right) + \sin \left(\frac{\pi}{r} \right) - \tan \left(\frac{\sqrt{\pi}}{r} \right)$$

$$\frac{\sqrt{x}}{x} - \frac{\sqrt{x}}{x} - \sqrt{x} \Rightarrow \sqrt{x}$$

$$\frac{\sin\left(\frac{11\pi}{r} + \alpha\right) + \cos\left(\frac{10\pi}{r} - \alpha\right)}{\cos(r\pi + \alpha) - \sin(9\pi - \alpha)}, \quad \frac{\sin\left(\frac{\pi}{r} + \alpha\right) + \cos\left(\frac{r\pi}{r} - \alpha\right)}{\cos(\pi + \alpha) - \sin(r\pi - \alpha)}$$

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

$$-1 + \sin \alpha$$