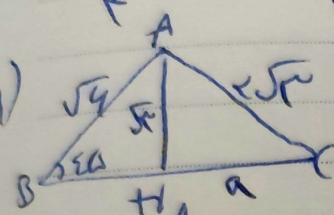
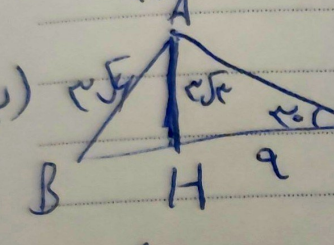
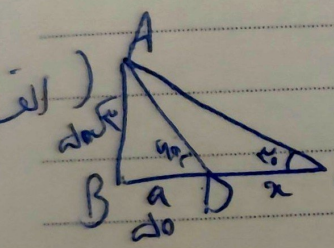


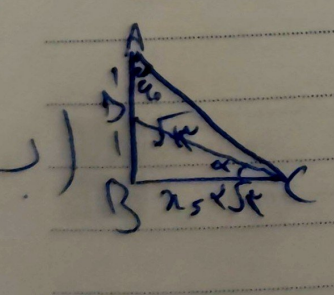
$$\frac{(\frac{\sqrt{2}}{2} + 1 - \frac{\sqrt{2}}{2})(\frac{\sqrt{2}}{2} - (-\frac{\sqrt{2}}{2}))}{2} = \frac{(\frac{\sqrt{2}}{2} - \sqrt{2})(\frac{\sqrt{2}}{2} + \sqrt{2})}{2} = \frac{2-2}{2} = -\frac{1}{2}$$

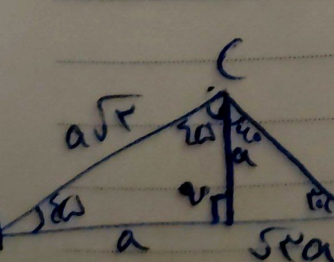
$$\text{ب) } \frac{1 + 2(\frac{1}{\sqrt{2}})^2}{\frac{2}{\sqrt{2}} + 2(-\frac{\sqrt{2}}{2})^2} = \frac{2}{2} = 1$$

الف)   $\sin 45^\circ = \frac{\sqrt{2}}{2} = \frac{h}{\sqrt{2}} \rightarrow h = 1$

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

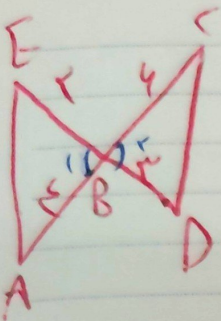
الف)   $\tan 45^\circ = \frac{\sqrt{2}}{a} = \frac{1}{a} \rightarrow a = \sqrt{2}$

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

  $a^2 + a^2 = 2a^2 \rightarrow AC = a\sqrt{2}$

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





$$\hat{B}_1 = \hat{B}_2$$

$$S = \frac{1}{2} ab \sin x$$

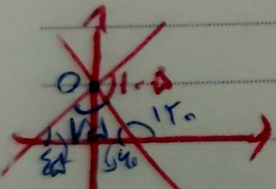
$$\frac{S_{ABE}}{S_{BCD}} = \frac{\frac{1}{2} \times 4 \times 2 \times \sin B_1}{\frac{1}{2} \times 4 \times 4 \times \sin B_2} = \frac{4}{9}$$

الف)  $4 \times \frac{1}{4} \times 4 \times 2 \times \frac{1}{2} \times \frac{1}{2} = 4\sqrt{3}$

ب)  $\frac{1}{4} \times 4 \times 2 \times \frac{1}{2} \times \frac{1}{2} = 4\sqrt{3}$

$$\tan \alpha = \frac{\Delta y}{\Delta x} = \frac{2-1}{1-(-1)} = \frac{1}{2}$$

$$1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} \quad 1 + \frac{1}{4} = \frac{1}{\cos^2 \alpha} \rightarrow \cos^2 \alpha = \frac{4}{5} \quad \cos \alpha = \frac{2}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$$



$$O = [y]$$

$$y = 0 + r \cos r \alpha$$

$$y = mx + b \rightarrow r \cos \alpha = \sqrt{2} x + b$$

$$b = r \cos \alpha$$

$$m b = \sqrt{2} \times r \cos \alpha = \sqrt{2} \times \frac{1}{2} = \frac{\sqrt{2}}{2}$$

$$f\left(\frac{\alpha \pi}{4}\right) = \cos\left(\frac{\alpha \pi}{4} + \frac{\pi}{4}\right) + \sin\left(\frac{\pi}{4} - \frac{\alpha \pi}{4}\right) = \tan\left(\frac{\pi}{4} + \frac{\alpha \pi}{4}\right)$$

$$= \cos \alpha + \cos \alpha + \cot \alpha = \cot \alpha \rightarrow n = \frac{\alpha \pi}{4} = \frac{\sqrt{2}}{2}$$

$$\sin\left(\frac{14\pi}{4} + \pi\right) + \cos\left(\frac{14\pi}{4} - \pi\right) = \cos \pi + \sin \pi$$

$$\cos(4\pi + \pi) - \sin(4\pi - \pi) = -\cos \pi + \sin \pi$$