

سأجيب عليك

(لينا)

1-

الف) $(\sin 135^\circ + \sin 225^\circ)(\cos 135^\circ - \cos 225^\circ)$

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

الف) $\frac{1 + \tan^2 110^\circ}{\sec^2 110^\circ + \sec^2 110^\circ}$

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

$\tan 110^\circ = \frac{1}{\sqrt{2}}$

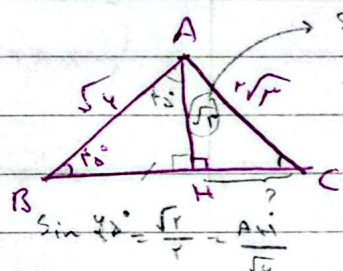
$\cos 110^\circ = \frac{\sqrt{2}}{2}$

$\cos 110^\circ = \frac{-\sqrt{2}}{2}$

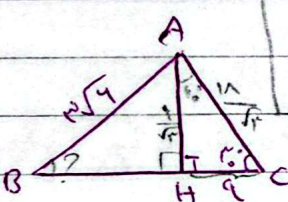
2-

الف)

$HC = ?$



$\sin 45^\circ = \frac{1}{\sqrt{2}} \rightarrow \hat{C} = 45^\circ$
 $\cos 45^\circ = \frac{\sqrt{2}}{2} = \frac{HC}{10}$
 $HC = \frac{10 \times \sqrt{2}}{2} = 5\sqrt{2}$



$\frac{10}{2} = \frac{5\sqrt{2}}{1} = AH$
 $\cos 45^\circ = \frac{\sqrt{2}}{2} = \frac{9}{AC}$
 $\frac{9 \times \sqrt{2}}{\sqrt{2}} = AC$

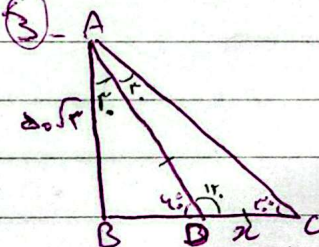
$\sin 45^\circ = \frac{1}{\sqrt{2}} = \frac{AH}{10}$
 $\frac{10}{\sqrt{2}} \times \frac{1}{\sqrt{2}}$

$\sin \hat{B} = \frac{9}{10\sqrt{2}} = \frac{9 \times \sqrt{2}}{10 \times \sqrt{2}} = \frac{9\sqrt{2}}{10}$
 $\hat{B} = 45^\circ$

! لا تنسى H

3-

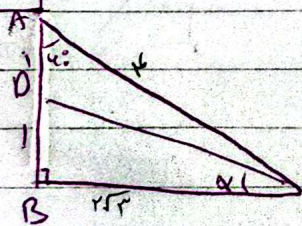
الف) $m = ?$



$\sin 45^\circ = \frac{\sqrt{2}}{2} = \frac{5\sqrt{2}}{AD}$
 $AD = \frac{5 \times \sqrt{2}}{\sqrt{2}} = 5$

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

$1 + 1 = 14$
 $BC = 14$
 $BC = \sqrt{14}$



$\sin \alpha = 1$

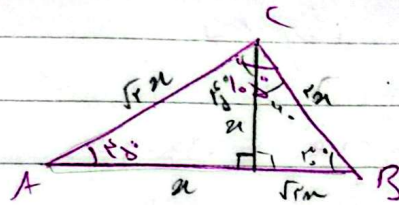
$\sin \alpha = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$1 + (\sqrt{2})^2 = DC^2$
 $1 + 2 = DC^2$
 $DC = \sqrt{3}$



Benobar

④ $\frac{AB}{AC} = ?$



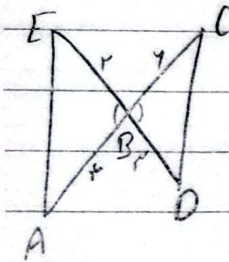
$r^2 = a^2 + r^2 - 2ar \cos 120^\circ$

مسألة هندسية

$$\frac{(1+\sqrt{3})2r \times \sqrt{r}}{r \times r \times \sqrt{r}} = \frac{\sqrt{r} + \sqrt{3}}{r}$$

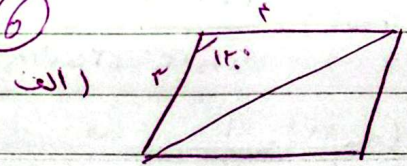
⑤ $\frac{S_{ABE}}{S_{BCD}} = ?$

$S = \frac{1}{2} \times b \times c \times \sin A \rightarrow$ مساحة

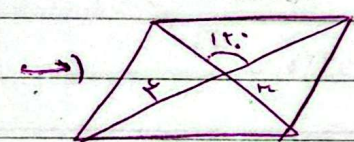


$$\frac{\frac{1}{2} \times r \times r \times \sin 120^\circ}{\frac{1}{2} \times r \times r \times \sin 120^\circ} = \frac{r}{r}$$

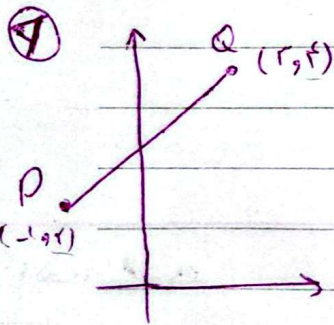
⑥



$$r \times \frac{1}{r} \times r \times r \times \sin 120^\circ = \frac{r^2 \sqrt{3}}{2}$$



$$\frac{1}{r} \times r \times r \times r \times \sin 120^\circ = \frac{r^2 \sqrt{3}}{2}$$



$\cos \theta = ?$

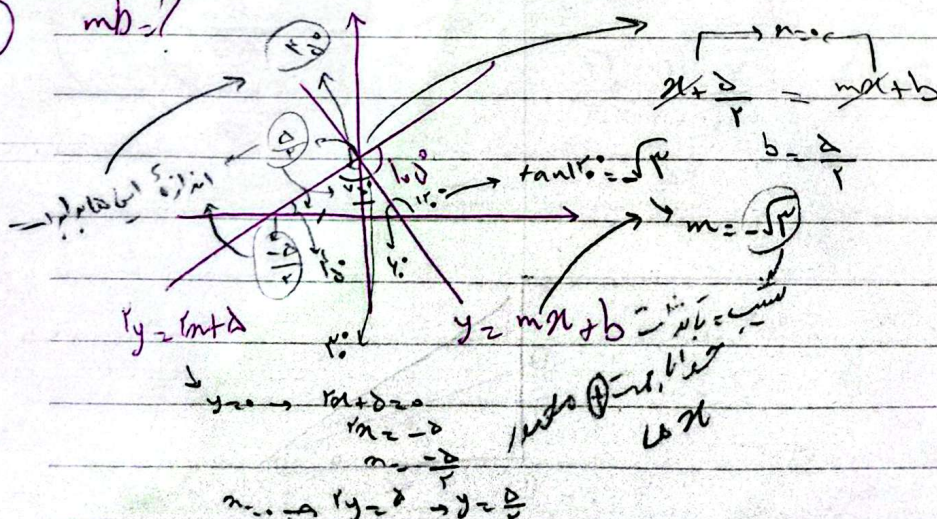
$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{r - 2}{r + 1} = \frac{r}{r} = 1 = \tan \theta$$

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

$\frac{1}{r} + 1$

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

⑧ mb = ?



$$\textcircled{9} \quad f(x) = \cos(\pi + x) + \sin\left(\frac{\pi}{r} + x\right) + \sin\left(\frac{\pi}{r} - x\right) - \tan\left(\frac{\pi}{r} + x\right)$$

$$-\cancel{\cos x} + \cancel{\cos x} + \cos x + \cot x$$

$$f\left(\frac{5\pi}{4}\right) = ?$$

$\rightarrow 120^\circ$

$$\cos 120^\circ + \cot 120^\circ$$

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

$$\textcircled{10} \quad \sin\left(\frac{14}{r}\pi + x\right) + \cos\left(\frac{12}{r}\pi - x\right)$$

$$\cos(4\pi + x) \Rightarrow \sin(4\pi - x)$$

$$+ \cos x - \sin x$$

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

$$\cos(\pi + x) \Rightarrow \sin(\pi - x)$$

$$-\cos x + \sin x$$