

دسم پیران A - تکلیف ۲۰

نام خود را

امید من میراث

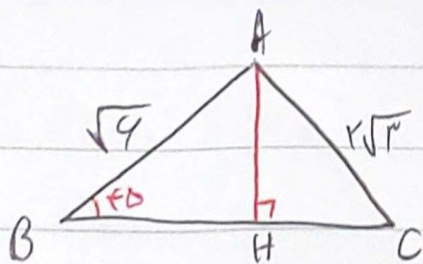
سوال ۱

الف) $(\sin 135^\circ + \sin 30^\circ)(\cos 15^\circ - \cos 10^\circ)$

$\left(\frac{\sqrt{2}}{2} + \left(-\frac{\sqrt{2}}{2}\right)\right) \times \left(\frac{\sqrt{2}}{2} - \left(-\frac{\sqrt{3}}{2}\right)\right) \xrightarrow{\text{اتحاد}} \left(\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}\right) \times \left(\frac{\sqrt{2}}{2} + \frac{\sqrt{3}}{2}\right)$

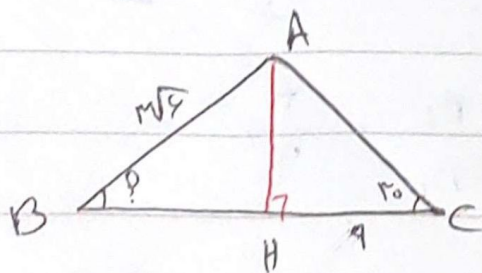
$= \frac{2}{4} - \frac{3}{4} = -\frac{1}{4}$

ب) $\frac{1 + 3 \tan^2 15^\circ}{5 \cos^2 30^\circ + 2 \cos^2 20^\circ} = \frac{1 + \left(3 \times \frac{3}{4}\right)}{\left(5 \times \frac{3}{4}\right) + 2 \times \left(\frac{2}{4}\right)} = \frac{1 + 1}{3 + 1} = \frac{1}{2}$



سوال ۲
 $\sin 45^\circ, \frac{\sqrt{2}}{2} = \frac{AH}{\sqrt{4}} \rightarrow AH = \frac{\sqrt{12}}{2} = \sqrt{3}$

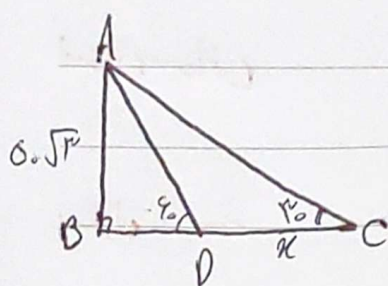
$(\sqrt{2})^2 + HC^2 = (2\sqrt{3})^2 \rightarrow 2 + HC^2 = 12 \rightarrow HC = 3$



$\tan 30^\circ = \frac{\sqrt{3}}{3} = \frac{AH}{3} \rightarrow AH = 3\sqrt{3}$

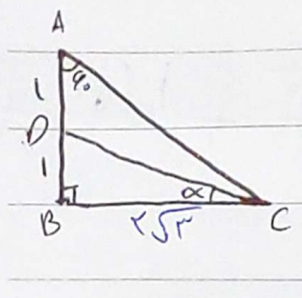
$\sin \hat{B} = \frac{3\sqrt{3}}{2\sqrt{4}} = \frac{\sqrt{3}}{\sqrt{4}} = \frac{\sqrt{3}}{\sqrt{2 \times 2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

$\hat{B} = 45^\circ, 135^\circ \rightarrow$ در شکل، 45° می خورد.



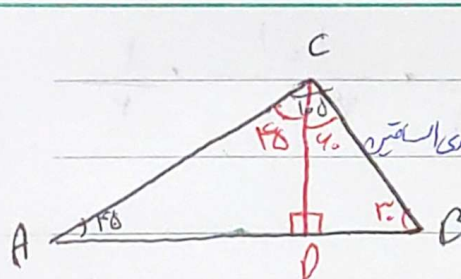
$$\tan 45^\circ = \sqrt{3} = \frac{6\sqrt{3}}{BD} \rightarrow BD = 6$$

$$\tan 45^\circ = \frac{\sqrt{3}}{x} = \frac{6\sqrt{3}}{BC} \rightarrow BC = 18 \rightarrow x = 18 \rightarrow \Delta = 180$$



$$\tan 45^\circ = \sqrt{3} = \frac{BC}{x} \rightarrow BC = x\sqrt{3}$$

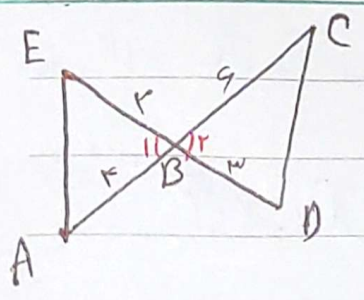
$$DC = 1x + 1 \rightarrow DC = \sqrt{1x^2 + 1} \rightarrow \sin \alpha = \frac{\sqrt{1x^2 + 1}}{1x} = \frac{1}{\sqrt{1x^2 + 1}}$$



$$\tan 45^\circ = \sqrt{3} = \frac{DB}{CD} \rightarrow DB = \sqrt{3}CD$$

$$\sin 45^\circ = \frac{\sqrt{3}}{r} = \frac{CD}{AC} \rightarrow AC = \frac{r}{\sqrt{3}} = \sqrt{3}CD$$

$$\rightarrow \frac{AB}{AC} = \frac{(1 + \sqrt{3})CD}{(\sqrt{3})CD} = \frac{1 + \sqrt{3}}{\sqrt{3}}$$



$$\hat{B}_1 = \hat{D}_1 \rightarrow \frac{7 \times 9 \sin 110^\circ}{x} = \frac{7 \times 9 \sin 110^\circ}{x}$$

$$\frac{ABE}{CDB} = \frac{7 \sin 110^\circ}{9 \sin 110^\circ} = \frac{7}{9}$$

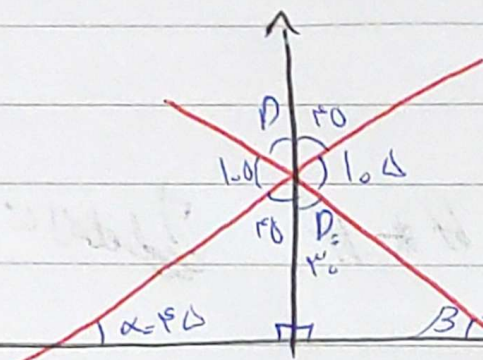
الف) $\frac{7 \times 9 \sin 110^\circ}{x} = \frac{7 \times 9 \sin 110^\circ}{x} = 9\sqrt{3}$

ب) $\frac{7 \times 9 \sin 110^\circ}{x} = \frac{7\sqrt{3}}{x}$

$$1 \quad \text{مسئله ٧} \quad \tan \theta = \frac{r}{r-(-1)} = \frac{r}{r} = 1$$

$$2 \quad 1 + \tan^2 \theta = \frac{1}{\cos^2 \theta} \rightarrow 1 + \frac{1}{r} = \frac{1}{\cos^2 \theta} \rightarrow \frac{0}{r} = \frac{1}{\cos^2 \theta} \rightarrow \cos^2 \theta = \frac{r}{0}$$

$$3 \quad \cos \theta = \pm \frac{r}{\sqrt{\Delta}} = \pm \frac{r\sqrt{\Delta}}{\Delta}$$



$$4 \quad \text{مسئله ٨} \quad y = x + r/\Delta \rightarrow b = r/\Delta$$

$$\tan \alpha = 1 \rightarrow \alpha = 45^\circ$$

$$rD = rP_0 = (r|_0 + 9) \rightarrow D = 30$$

$$\hat{B} = 90^\circ \rightarrow \hat{B}' = 135^\circ$$

$$ry = 2x + 1$$

$$y = mx + b \quad m = \tan \beta = \sqrt{3}$$

$$\rightarrow m = \sqrt{3}, b = r/\Delta \rightarrow m \times b = r/\Delta \sqrt{3}$$

$$16 \quad f\left(\frac{OM}{r}\right) = \cos\left(\frac{11\pi}{4}\right) + \sin\left(-\frac{\pi}{4}\right) - \tan\left(\frac{11\pi}{4}\right)$$

$$17 \quad = \cos 330^\circ + \sin(-45^\circ) - \tan 315^\circ = \frac{\sqrt{3}}{2} + \left(-\frac{\sqrt{2}}{2}\right) - \sqrt{3}$$

$$18 \quad = -\sqrt{3}$$

Subject.

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

سؤال ١٠

$$= \frac{\cos \pi - \sin \pi}{-\cos \pi - (-\sin \pi)} = \frac{\cos \pi - \sin \pi}{-\cos \pi + \sin \pi} = \frac{-(-\cos \pi + \sin \pi)}{-\cos \pi + \sin \pi}$$

$$= -1$$