

دسم پیران A - تلف ۲۰

بہ نام خدا

امیدیں میراں

سوال ۱

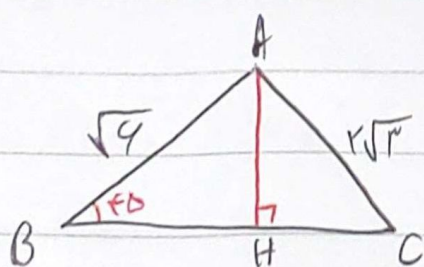
$$(1) (\sin 135^\circ + \sin 30^\circ) (\cos 30^\circ - \cos 15^\circ)$$

(۲)

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

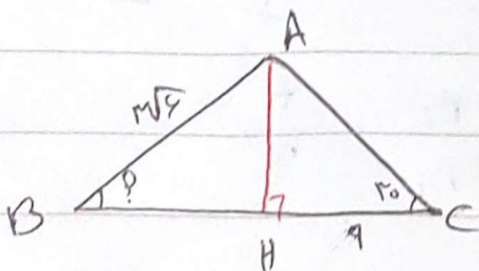
$$= \frac{2}{2} - \frac{3}{2} = -\frac{1}{2} \checkmark$$

$$(2) \frac{1 + 3 \tan^2 15^\circ}{5 \cos^2 30^\circ + 2 \cos^2 45^\circ} = \frac{1 + \left(3 \times \frac{3}{4}\right)}{\left(5 \times \frac{3}{4}\right) + 2 \times \left(\frac{2}{2}\right)} = \frac{1 + 1}{3 + 1} = \frac{1}{2} \checkmark$$



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

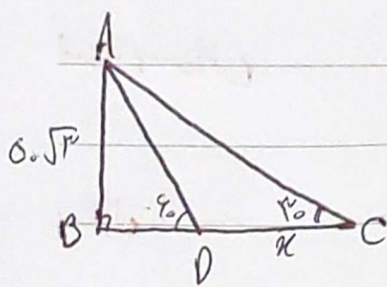
$$(\sqrt{2})^2 + HC^2 = (2\sqrt{3})^2 \rightarrow 2 + HC^2 = 12 \rightarrow HC = 3 \checkmark$$



$$\tan 30^\circ = \frac{\sqrt{3}}{3} = \frac{AH}{4} \rightarrow AH = 4\sqrt{3}$$

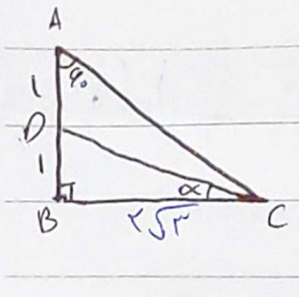
$$\sin \hat{B} = \frac{4\sqrt{3}}{2\sqrt{4}} = \frac{\sqrt{3}}{\sqrt{4}} = \frac{\sqrt{3}}{2} = \frac{1}{2} = \frac{\sqrt{2}}{2}$$

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



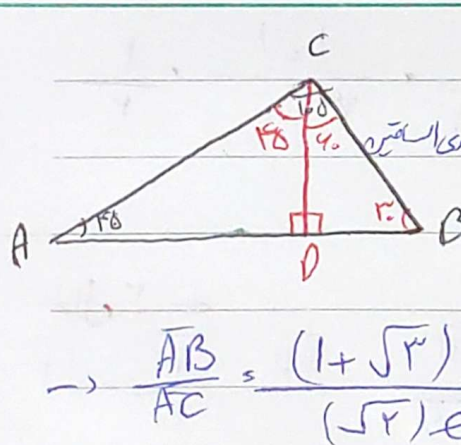
$$\tan 45^\circ = \sqrt{3} = \frac{0.5\sqrt{3}}{BD} \rightarrow BD = \Delta_c \quad (2) \leftarrow \text{سؤال 3}$$

$$\tan \alpha = \frac{\sqrt{3}}{r} = \frac{0.5\sqrt{3}}{BC} \rightarrow BC = 1\Delta_c \rightarrow \alpha = 10^\circ \rightarrow \Delta_c = 10^\circ$$



$$\tan 45^\circ = \sqrt{3} = \frac{BC}{r} \rightarrow BC = 2\sqrt{3}$$

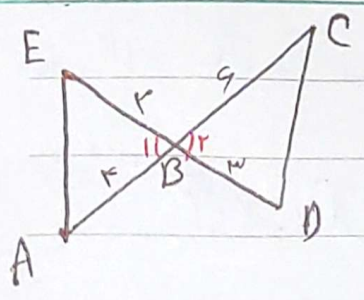
$$DC = 12 + 1 \rightarrow DC = \sqrt{13} \rightarrow \sin \alpha = \frac{\sqrt{13}}{13} = \frac{1}{\sqrt{13}}$$



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

$$\sin \alpha = \frac{\sqrt{3}}{r} = \frac{CD}{AC} \rightarrow AC = \frac{r}{\sin \alpha} = \frac{CD}{\frac{\sqrt{3}}{r}} = \frac{r^2}{\sqrt{3}}$$

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



$$\hat{B}_1 = \hat{B}_2 \rightarrow \frac{7 \times 9 \sin B_1}{7 \times 9 \sin B_1} = \frac{7 \times 9 \sin B_1}{7 \times 9 \sin B_1}$$

$$\frac{ABE}{CDB} = \frac{7 \sin B_1}{9 \sin B_1} = \frac{7}{9}$$

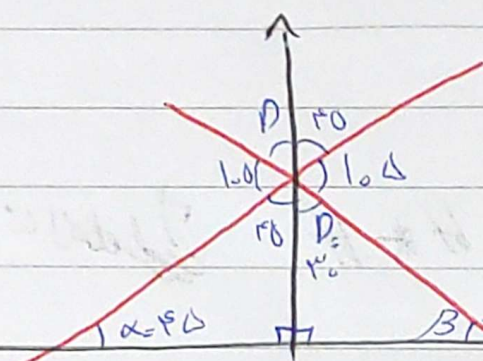
الف) $\frac{7 \times 9 \sin 10^\circ}{7 \times 9 \sin 10^\circ} = \frac{7 \times 9 \sin 10^\circ}{7 \times 9 \sin 10^\circ} = 9\sqrt{3}$ سؤال 6

ب) $\frac{7 \times 9 \sin 10^\circ}{7 \times 9 \sin 10^\circ} = \frac{7 \times 9 \sin 10^\circ}{7 \times 9 \sin 10^\circ} = 9\sqrt{3}$ رست!

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

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

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



$$4 \quad ry = 2x + 1$$

$$5 \quad y = mx + b \quad m = \tan \theta = -\sqrt{3}$$

$$6 \quad \rightarrow m = \sqrt{3}, b = 2/\Delta \quad \checkmark, \quad m \times b = -1/\Delta \sqrt{3}$$

$$7 \quad f\left(\frac{OM}{r}\right) = \cos\left(\frac{11\pi}{4}\right) + \sin\left(-\frac{\pi}{4}\right) - \tan\left(\frac{11\pi}{4}\right)$$

سؤال ٩ (٢)

$$8 \quad = \cos 135^\circ + \sin(-45^\circ) - \tan 45^\circ = \frac{\sqrt{2}}{2} + \left(-\frac{\sqrt{2}}{2}\right) - \sqrt{2}$$

$$9 \quad = -\sqrt{2} \quad \checkmark$$

Subject.

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

سؤال ١٠ (٢)

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

$$= -1 \quad \checkmark$$