

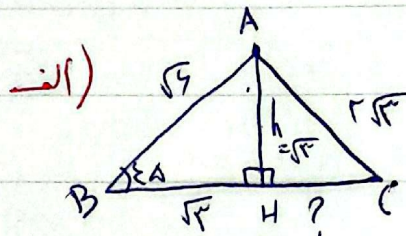
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سارا عزیز سیٹکیت لکھو

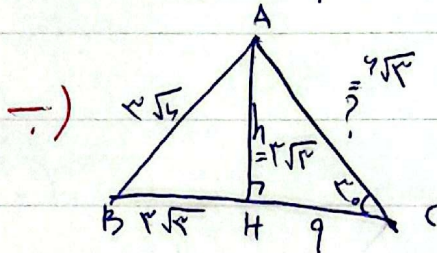
الف) $(\sin 135^\circ + \sin 45^\circ)(\cos 135^\circ - \cos 45^\circ) = \left(\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{2}}{2} - \left(-\frac{\sqrt{2}}{2}\right)\right)$ ①

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

ب) $\frac{1+3\tan^2 21^\circ}{4\cos^2 21^\circ + 2\cos^2 21^\circ A} = \frac{2}{2+1} = \frac{2}{3} = \frac{1}{\frac{3}{2}}$



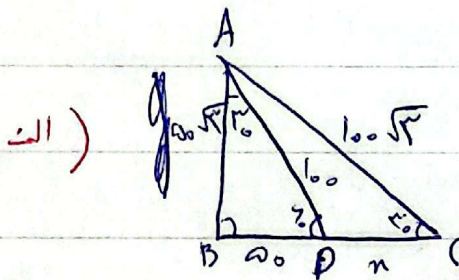
$h = \frac{\sqrt{3}}{2} \times \sqrt{3} = \sqrt{3} \rightarrow (\sqrt{3})^2 = (\sqrt{3})^2$
 $\rightarrow ?^2 = 9 \rightarrow ? = 3$



$\frac{\sqrt{3}}{2} \times ? = 9 \rightarrow ? = 4\sqrt{3}$

$h = \frac{4\sqrt{3}}{2} = 2\sqrt{3}$

$(3\sqrt{3})^2 = (2\sqrt{3})^2 + (BH)^2 \rightarrow BH = 3\sqrt{3} \rightarrow B = A = 60^\circ$



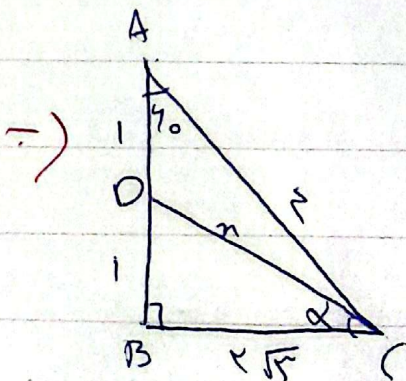
$100\sqrt{3} \times 2 = 100\sqrt{3} = AC$

$100\sqrt{3} = AD \times \frac{\sqrt{3}}{2} \rightarrow AD = 100$

$\rightarrow BD = \frac{100}{2} = 50$

$\rightarrow (100\sqrt{3})^2 = (50\sqrt{3})^2 + BC^2 \rightarrow 100000 - 75000 = BC^2 = 25000 \rightarrow BC = 150$

$150 = BD + n = 50 + n \rightarrow n = 100$

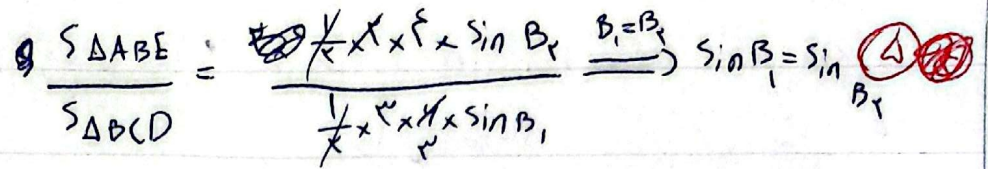


$AB = \frac{AC}{2} \rightarrow 1 = \frac{AC}{2} \rightarrow AC = 2$

$BC = \frac{\sqrt{3}}{2} \times 2 = \sqrt{3}$

$n^2 = 1^2 + (2\sqrt{3})^2 = 1 + 12 = 13 \rightarrow n = \sqrt{13}$

$\rightarrow \sin \alpha = \frac{AB}{AC} = \frac{1}{2} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{2}$



(الف) $\sqrt{x} \times \frac{1}{x} \times \sqrt{x} \times \sin \frac{\sqrt{x}}{x} \pi$. $(\sin \frac{\sqrt{x}}{x} \pi = \frac{\sqrt{x}}{x}) = 4\sqrt{x}$

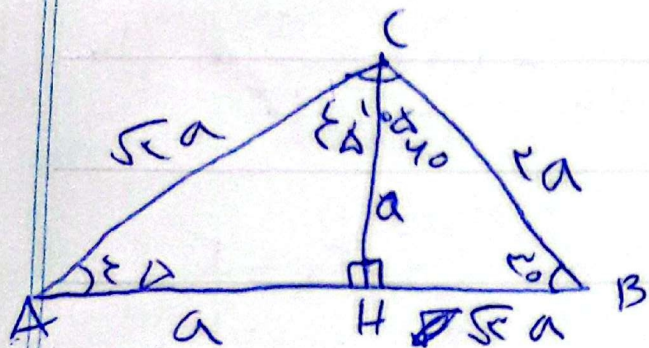
$$\tan \theta = \mu = \frac{\Delta y}{\Delta x} = \frac{r}{r \cos \theta} = \frac{1}{\cos \theta}$$

$$\rightarrow 65 = \frac{r}{s} \rightarrow (6) = \frac{r}{\frac{r}{\sqrt{11}}} \times \frac{\sqrt{11}}{\sqrt{11}} = \frac{r\sqrt{11}}{s}$$



$$\Rightarrow mb = -\sqrt{r} \times \frac{a}{\sqrt{r}} = -\frac{a\sqrt{r}}{1}$$

Scanned with CamScanner



$$BC = a \times \sqrt{2} = \sqrt{2}a$$

(E)

$$BH = \frac{\sqrt{5}}{2} \times \sqrt{2}a = \frac{\sqrt{10}}{2}a$$

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

$$\frac{AB}{AC} = \frac{a + \frac{\sqrt{10}}{2}a}{\sqrt{2}a} = \frac{a(1 + \frac{\sqrt{10}}{2})}{\sqrt{2}a} = \frac{1 + \frac{\sqrt{10}}{2}}{\sqrt{2}}$$

$$= \frac{\sqrt{2} + \sqrt{5}}{2}$$

$$\frac{\sin\left(\frac{13\pi}{4} + \frac{\pi}{4} + n\right) + \cos\left(\frac{13\pi}{4} + \frac{\pi}{4} - n\right)}{\cos(\pi + n) - \sin(\pi - n)}$$

(1)

$$= \frac{\sin\left(\frac{\pi}{2} + n\right) + \cos\left(\frac{\pi}{2} - n\right)}{\cos(\pi + n) - \sin(\pi - n)} = \frac{\cos n + \sin n}{-\cos n - (-\sin n)} = \frac{\cos n + \sin n}{-\cos n + \sin n}$$

$$= -1$$