

الف) $\frac{2\sqrt{3}}{180} = \frac{n}{\pi} \Rightarrow 20n = 3\pi \Rightarrow n = \frac{3\pi}{20}$

ب) $\frac{125}{180} = \frac{n}{\pi} \Rightarrow n = \frac{25\pi}{36}$

ج) $\frac{6\pi}{9} = \frac{n}{180} \Rightarrow n = 120^\circ$

د) $\frac{5\pi}{12} = \frac{n}{180} = \frac{\omega}{12} \Rightarrow n = \frac{180 \times 5}{12} = 75^\circ$

$\frac{a\pi}{1} = \frac{n}{180} \Rightarrow n = \frac{a \times 180}{1} = 22/5a^\circ$

$12/5a^\circ + 22/5a^\circ + 10a^\circ = 180$

$40a^\circ = 180$

$a = 4^\circ$

$\frac{150a}{9} = \frac{y}{180} \Rightarrow y = \frac{30 \times 180a}{9 \times 1} = 12/5a^\circ$

ان) $\frac{1}{2} \times \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2} \times \frac{1}{2} - 1 + 2 = 1$

ب) $\frac{\frac{1}{2} + 1 + \sqrt{3}}{\sqrt{2} - \frac{\sqrt{3}}{2}} = \frac{\frac{1+\sqrt{3}}{2}}{\frac{2\sqrt{2}-\sqrt{3}}{2}} = \frac{1+\sqrt{3}}{2\sqrt{2}-\sqrt{3}}$

$-\frac{1}{4} + \frac{3}{4} = \frac{1}{2} = \sin^2 \theta \Rightarrow \sin \theta = \pm \frac{\sqrt{2}}{2}$

$\theta = 45^\circ$

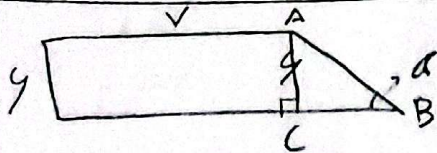
چون گفته شده غیرقابل قبول

$\tan 45^\circ = 1$

$\frac{\frac{2\sqrt{3}}{3} \left(1 - \frac{1}{3}\right)}{\left(1 - \frac{1}{3}\right)^2} = \frac{\frac{4\sqrt{3}}{9}}{\frac{4}{9}} = \sqrt{3} = \tan \theta \Rightarrow \theta = 60^\circ$

$\frac{60}{180} = \frac{\text{Rad}}{\pi} \Rightarrow \text{Rad} = \frac{\pi}{3}$

$$\frac{\cos\left(\frac{10}{r \sin} - 1\right)}{\cos\left(\frac{\sin}{\cos} - f\right)} = \frac{1f}{1} = 1f$$



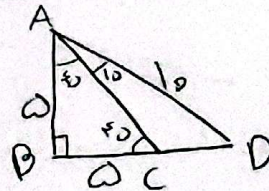
$$\sin a = \frac{4}{5} = \frac{4}{AB} \Rightarrow AB = 5$$

$$10^2 = 4^2 + CB^2 \Rightarrow CB = 8$$

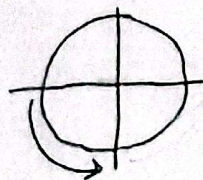
$$10 + 8 + 4 + V + V = 22$$

$$\cos 40^\circ = \frac{AB}{10} = \frac{1}{2} \Rightarrow AB = 5$$

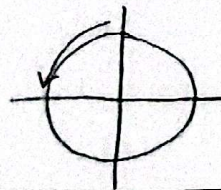
$$\sin 40^\circ = \frac{BD}{10} = \frac{\sqrt{3}}{2} \Rightarrow BD = 5\sqrt{3}$$



$$DC = BD - BC = 5\sqrt{3} - 5 = 5(\sqrt{3} - 1)$$



(الف) سوم



(ب) دوم

$$1 + \tan^2 = \frac{1}{\cos^2} = 1 + \frac{1}{9} = \frac{10}{9} \Rightarrow \cos = -\frac{3}{\sqrt{10}}$$

$$\sin = \tan \times \cos = \frac{1}{3} \times -\frac{3}{\sqrt{10}} = -\frac{1}{\sqrt{10}}$$