

$$\text{الف) } \frac{27}{110} = \frac{R_{ad}}{\pi} \rightarrow \frac{27}{110} \times \frac{\pi}{\frac{110}{20}} = \frac{2\pi}{20} \quad \text{ب) } \frac{128}{110} \times \frac{\pi}{\frac{110}{20}} = \frac{256\pi}{20}$$

$$\text{ج) } \frac{2\pi}{110} \times \frac{110}{\pi} = 2^\circ \quad \text{د) } \frac{256\pi}{20} \times \frac{110}{\pi} = 110^\circ$$

$$\frac{2\pi}{110} \times \frac{110}{\pi} - \frac{256\pi}{20} \times \frac{110}{\pi} = 110^\circ \quad \frac{128}{20} \times \frac{110}{\pi} = 128^\circ$$

$$128^\circ + 128^\circ + 10^\circ = 110^\circ \rightarrow 256^\circ = 110^\circ \rightarrow a = 110^\circ$$

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

$$\text{ب) } \frac{\left(\frac{\sqrt{3}}{2}\right)^2 + 1 + \left(\frac{\sqrt{3}}{2}\right)^2}{\sqrt{3} - \frac{\sqrt{3}}{2}} = \frac{\frac{3}{4} + 1 + \frac{3}{4}}{\frac{2\sqrt{3} - \sqrt{3}}{2}} = \frac{\frac{13}{4}}{\frac{\sqrt{3}}{2}} = \frac{13}{2\sqrt{3}}$$

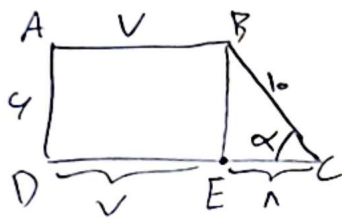
$$-\frac{1}{2} \times \frac{1}{2} + \frac{\sqrt{3}}{2} \times \frac{\sqrt{3}}{2} = \sin^2 \theta$$

$$-\frac{1}{4} + \frac{3}{4} = \sin^2 \theta \rightarrow \sin^2 \theta = \frac{2}{4} \rightarrow \sin \theta = \frac{\sqrt{2}}{2} \rightarrow \theta = 45^\circ \rightarrow \tan 45^\circ = 1$$

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

$$\frac{\sin \theta}{\cos \theta} = \Delta \rightarrow \sin \theta = \Delta \cos \theta$$

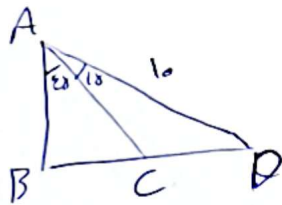
$$\frac{3 \sin \theta - \cos \theta}{\sin \theta - 2 \cos \theta} = \frac{1 \Delta \cos \theta - \cos \theta}{\Delta \cos \theta - 2 \cos \theta} = \boxed{14}$$



$$\sin \alpha = \frac{BE}{BC} = \frac{4}{10} \Rightarrow \frac{4}{BC} = \frac{4}{10} \rightarrow BC = 10$$

$$\cos \alpha = \frac{EC}{BC} = \frac{1}{10} \rightarrow \frac{EC}{10} = \frac{1}{10} \rightarrow EC = 1$$

$$V + 4 + 1 + 10 = \boxed{38}$$



$$AB = BC = 10 \times \cos 40^\circ = \Delta$$

$$BD = \sin 40^\circ \times 10 = \frac{10\sqrt{3}}{2} = \Delta\sqrt{3}$$

$$CD = BD - CB = \Delta\sqrt{3} - \Delta = \Delta(\sqrt{3} - 1)$$

ربع 3

اذا با افزایش مقدار $\uparrow \cos \theta$ و $\downarrow \sin \theta$
ربع 3 و 4 ربع 2 و 3

ربع 2

ب با افزایش مقدار $\downarrow \cos \theta$ و $\uparrow \sin \theta$
ربع 1 و 2 ربع 3 و 4

$$9 \sin^2 \alpha = \cos^2 \alpha \leftarrow 3 \sin \alpha = \cos \alpha \leftarrow \tan \alpha = \frac{1}{3}$$

$$9 \sin^2 \alpha = 1 - \sin^2 \alpha \rightarrow 10 \sin^2 \alpha = 1 \rightarrow \sin \alpha = \frac{\sqrt{10}}{10}$$