

(1)

$$27^\circ = (n) \text{ rad} \rightarrow \frac{27}{180} = \frac{n}{\pi} \rightarrow 27\pi = 180 \cdot n \rightarrow \frac{27\pi}{180} = \frac{9\pi}{60} = \frac{3\pi}{20} \quad (\text{الف})$$

$$125^\circ = (n) \text{ rad} \rightarrow \frac{125}{180} = \frac{n}{\pi} \rightarrow 125\pi = 180 \cdot n \rightarrow n = \frac{125\pi}{180} = \frac{25\pi}{36} \quad (\text{ب})$$

$$\frac{5\pi}{12} \text{ rad} = (n)^\circ \rightarrow \frac{\frac{5\pi}{12}}{\frac{\pi}{180}} = n \rightarrow \frac{5\pi}{12} = \frac{n}{180} \rightarrow 12n = 900 \rightarrow n = 75^\circ \quad (\text{ج})$$

$$\frac{8\pi}{9} \text{ rad} = (n)^\circ \rightarrow \frac{\frac{8\pi}{9}}{\frac{\pi}{180}} = n \rightarrow \frac{8\pi}{9} = \frac{n}{180} \rightarrow 9n = 720 \rightarrow n = 80^\circ \quad (\text{د})$$

$$10a^\circ + \frac{125a}{9} + \frac{a\pi}{180} = 180^\circ \quad (1, 10)$$

$$(1) \quad 10a^\circ = 10a^\circ$$

$$(2) \quad \frac{125a}{9} = \frac{n}{180} = \frac{125a}{180} = \frac{n}{180} \rightarrow 125a = 180n \rightarrow n = 125a \quad (2)$$

$$(3) \quad \frac{a\pi}{180} = \frac{n}{180} \rightarrow \frac{a\pi}{180} = \frac{n}{180} \rightarrow 180n = 180a \rightarrow n = 180a \quad (3)$$

$$\rightarrow 10a^\circ + 125a^\circ + 180a^\circ = 180^\circ \rightarrow 315a = 180 \rightarrow a = \frac{180}{315} = \frac{4}{7}$$

$$\frac{1}{p} \times \frac{\sqrt{3}}{p} + \frac{\sqrt{3}}{p} \times \frac{1}{p} = 1 + p = 11 \quad (\text{الف}) \quad (2)$$

$$\frac{\sqrt{3}}{p} \times \frac{\sqrt{3}}{p} + 1 \times 1 + \frac{\sqrt{3}}{p} \times \frac{\sqrt{3}}{p} = \frac{3}{p^2} + 1 + \frac{3}{p^2} = \frac{6}{p^2} + 1 = 11 \rightarrow \frac{6}{p^2} = 10 \rightarrow p^2 = \frac{6}{10} = \frac{3}{5} \rightarrow p = \frac{\sqrt{3}}{\sqrt{5}}$$

$$= \frac{13\sqrt{3}}{9}$$

$$\frac{1}{\varepsilon} + \frac{p}{\varepsilon} = \sin^2 \theta \rightarrow \frac{1}{\varepsilon} = \sin^2 \theta \rightarrow \sin \theta = \frac{\sqrt{2}}{p} \rightarrow \theta = 45^\circ \quad (\text{ع})$$

$$\tan \theta = \tan 45^\circ = 11$$

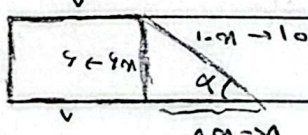
این برعکس

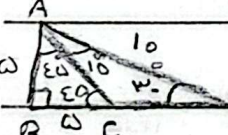
$$r\left(\frac{\sqrt{3}}{r}\right)\left(1 - \left(\frac{\sqrt{3}}{r}\right)^2\right) = \frac{r\sqrt{3}}{r} \times \frac{r}{9} = \frac{r\sqrt{3}}{9} \quad \text{دور} \quad (2)$$

$$\left(1 - \left(\frac{\sqrt{3}}{r}\right)^2\right)^2 = \frac{34}{11} \rightarrow \text{خرج} \quad (2)$$

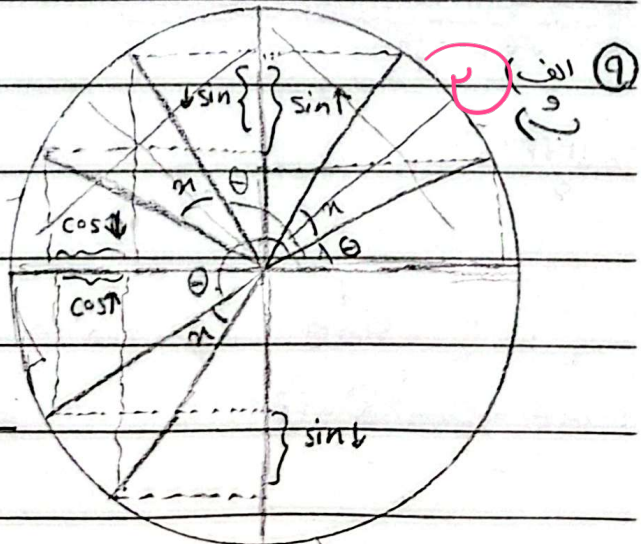
$$-\frac{\frac{\sqrt{3}}{2}}{\frac{2}{2}} = \frac{1}{1} \times \frac{r\sqrt{3}}{r \times \frac{r}{9}} = \sqrt{3} = \tan \theta \rightarrow \theta = 90^\circ = \frac{\pi}{2}$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} = \frac{\frac{r \sin \theta}{r \cos \theta} - \frac{\cos \theta}{\cos \theta}}{\frac{\sin \theta}{\cos \theta} - \frac{r \cos \theta}{\cos \theta}} = \frac{r \tan \theta - 1}{\tan \theta - r} = \frac{1 \times \sqrt{3} - 1}{\sqrt{3} - 1} = \sqrt{3} \quad (2)$$


 $\sin \alpha = \frac{4}{4} = 1 \rightarrow \alpha = 90^\circ$
 $4 + 4 + 4 = 12$


 $AB = \frac{1}{2} \times 10 = 5$
 $\sqrt{10^2 - 5^2} = \sqrt{75} = 5\sqrt{3} = BD$
 $BD - BC = CD \rightarrow CD = 5\sqrt{3}$

این دو دور است



این جواب ۳ می دهه ۲ الف

$$\tan \alpha = \frac{1}{\sqrt{3}} \rightarrow 1 + \tan^2 \alpha = \frac{1}{\cos^2 \alpha} \rightarrow 1 + \frac{1}{3} = \frac{1}{\cos^2 \alpha} = \frac{10}{9} = \frac{1}{\cos^2 \alpha} \quad (10)$$

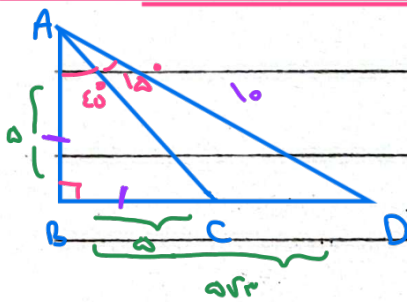
$$\rightarrow 1 \cdot \cos^2 \alpha = 9 \rightarrow \boxed{\cos \alpha = \frac{3}{\sqrt{10}}} \rightarrow \text{جانب مجاور}$$

$$\cos^2 \alpha + \sin^2 \alpha = 1 \rightarrow \frac{9}{10} + \sin^2 \alpha = 1 \rightarrow \sin^2 \alpha = \frac{1}{10} \rightarrow \boxed{\sin \alpha = \frac{1}{\sqrt{10}}} \rightarrow \text{جانب مقابل}$$

$$\frac{D}{10} = \frac{G}{\sqrt{10}} = \frac{\text{Rad}}{\pi} \rightarrow \frac{\pi}{10} = \frac{D_1}{10} \rightarrow D_1 = \frac{10}{\pi} \alpha = 11.22^\circ$$

$$\frac{12.5a}{9} = \frac{D_2}{10} \rightarrow D_2 = 13.89^\circ$$

$$13.89^\circ + 11.22^\circ + \alpha = 180^\circ \rightarrow \alpha = 54.89^\circ \rightarrow \boxed{\alpha = 55^\circ}$$



$$\angle A = 4^\circ \rightarrow \frac{AB}{10} = \frac{1}{\sqrt{2}} \rightarrow AB \in \Delta$$

$$AB = BC \rightarrow BC \in \Delta$$

$$\frac{BD}{10} = \frac{\sqrt{2}}{2} \rightarrow BD = 2\sqrt{2}$$

$$\boxed{CD = 2\sqrt{2} - a}$$