

محل

2.

$$\text{الف) } \frac{2V}{1\lambda_0} = \frac{R_{\text{rad}}}{R} \rightarrow \frac{2R}{V} \text{ rad}$$

$$\text{ب) } \frac{12\lambda}{1\lambda_0} = \frac{R_{\text{rad}}}{R} \rightarrow \frac{12R}{V} \text{ rad}$$

$$\text{ج) } \frac{\frac{5R}{9}}{R} = \frac{D}{1\lambda_0} \rightarrow 1\lambda_0 \times \frac{5R}{9} \times \frac{1}{R} = \boxed{V\lambda_0} \quad \text{✓}$$

$$\text{د) } \frac{\frac{5R}{9}}{R} = \frac{D}{1\lambda_0} \rightarrow 1\lambda_0 \times \frac{5R}{9} \times \frac{1}{R} = \boxed{1\lambda_0}$$

$$\frac{\frac{12R}{9}}{R} = \frac{D}{1\lambda_0} \rightarrow 12\lambda_0 \alpha$$

$$\frac{\frac{12\lambda_0 \alpha}{9}}{1\lambda_0} = \frac{D}{1\lambda_0} \rightarrow 1\lambda_0 \times \frac{12\lambda_0 \alpha}{9} \times \frac{1}{1\lambda_0} = 12\lambda_0 \alpha$$

$$12\lambda_0 \alpha + 12\lambda_0 \alpha + 1\lambda_0 = 4\lambda_0 = 1\lambda_0 \rightarrow \alpha = \frac{1}{4}$$

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

$$\text{ب) } \frac{\frac{1}{V} + 1 + V}{\sqrt{V} - \frac{\sqrt{V}}{V}} \neq \frac{\sqrt{V} + \frac{\sqrt{V}}{V}}{(\sqrt{V} + \frac{\sqrt{V}}{V})} = \frac{13\sqrt{V}}{4} \quad \text{✓}$$

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

$$1 + \cot^2 \theta = \frac{1}{\sin^2 \theta} \quad \cot^2 \theta = 1 \Rightarrow \cot \theta = 1 \Rightarrow \tan \theta = 1 \quad \text{✓}$$

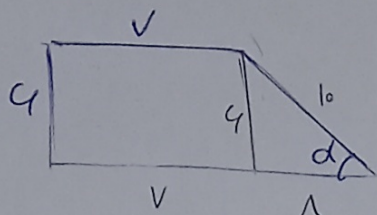
$$\frac{V \times \frac{1}{\sqrt{V}} \left(\frac{V}{V} \right)}{\frac{V}{9}} = \frac{V}{\sqrt{V}} \times \frac{V}{V} \times \frac{9}{V} = \frac{V}{\sqrt{V}} = \tan \theta$$

$$\rightarrow \frac{V}{\sqrt{V}} \times \frac{\sqrt{V}}{\sqrt{V}} = \sqrt{V} = \tan \theta$$

✓

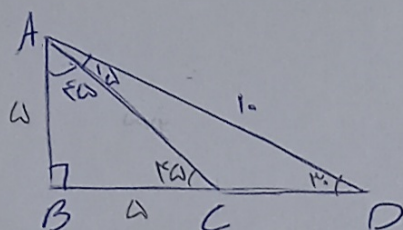
$$\theta = 45^\circ = \frac{\pi}{4}$$

$$\frac{\frac{3 \sin \theta - \cos \theta}{\cos \theta}}{\frac{\sin \theta - 3 \cos \theta}{\cos \theta}} = \frac{15 - 1}{5 - 3}, \quad \boxed{14} \quad \textcircled{2} \quad \checkmark$$



$$\sin \alpha = \frac{\text{مقابل}}{\text{مقدار}} = \frac{4}{5}$$

$$\textcircled{2} \quad P = 4 + 3 + 10 + 15 = \boxed{32}$$



$$\Delta ABD \sim \Delta : \begin{cases} A = 45^\circ \\ B = 90^\circ \\ D = 45^\circ \end{cases}$$

⇒ ضلع و وتر و زاویه ۳۰ درجه و وترات

$$AB = \frac{10}{2} = 5$$

BC نیز ۵ است زیرا سبک است و وترات ۴۵، ۹۰، ۴۵.

$$AB^2 + BD^2 = AD^2$$

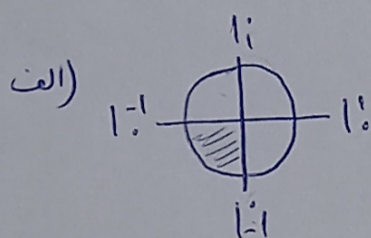
$$25 + BD^2 = 100$$

$$BD = \sqrt{75} = 5\sqrt{3}$$

$$\Rightarrow BC + CD = BD$$

$$5 + CD = 5\sqrt{3}$$

$$\boxed{CD = 5\sqrt{3} - 5}$$



$$\left| \begin{matrix} \cos \\ \sin \end{matrix} \right|$$

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$$\left| \begin{matrix} \cos \\ \sin \end{matrix} \right|$$

$$\textcircled{2} \quad \checkmark$$

$$\tan \alpha = \frac{1}{\mu}$$

$$\tan \alpha = 1 \Rightarrow \alpha = 45^\circ$$

$$\sin \theta = \frac{\text{مقابل}}{\text{مقدار}}$$

$$1 + \alpha^2 = \frac{1}{\sin^2}$$

$$1 + 4 = \frac{1}{\sin^2} \Rightarrow \sin^2 = \frac{1}{5}$$

$$\textcircled{2} \quad \checkmark \quad \sin = -\frac{1}{\sqrt{5}} = -\frac{\sqrt{5}}{5}$$