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الف) $\frac{27}{180} = \frac{Rad}{\pi} \Rightarrow \frac{3\pi}{20} rad$

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

ج) $\frac{5\pi}{\pi} = \frac{24}{180} \rightarrow \frac{5}{12} = \frac{D}{180} \rightarrow D = 75^\circ$

د) $\frac{8\pi}{9} = \frac{D}{180} \rightarrow D = 160^\circ$

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$\frac{125a}{9} = \frac{D}{180} \rightarrow D = 12/5a$

$\frac{a\pi}{\pi} = \frac{D}{180} \Rightarrow D = 22/5a$

$$\left. \begin{array}{l} 10a + 22/5a + 12/5a = 180^\circ \\ 85a = 180 \rightarrow a = 2^\circ \end{array} \right\}$$

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

ب) $\frac{(\frac{\sqrt{3}}{2})^2 + 1^2 + (\frac{\sqrt{3}}{2})^2}{\sqrt{3} - \frac{\sqrt{3}}{2}} = \frac{\frac{3}{4} + 1 + 3}{\frac{2\sqrt{3}-\sqrt{3}}{2}} = \frac{1+3+9}{\frac{\sqrt{3}}{2}} = \frac{13}{\frac{\sqrt{3}}{2}} = \frac{26}{\sqrt{3}}$

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

$\sin \theta = \frac{\sqrt{2}}{2} \rightarrow \theta < 90^\circ \rightarrow \theta = 45^\circ$

$\tan 45^\circ = 1$

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$\frac{2(\frac{\sqrt{3}}{2})(1 - \frac{1}{3})}{(1 - \frac{1}{3})^2} = \frac{\frac{4\sqrt{3}}{9}}{\frac{4}{9}} = \sqrt{3} = \tan \theta \xrightarrow{\theta < 90^\circ} \theta = 60^\circ$

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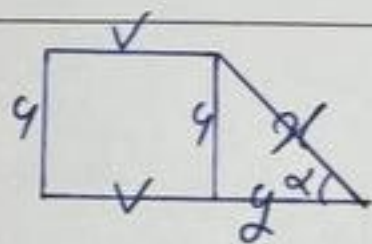
$\frac{60}{180} = \frac{Rad}{\pi} \Rightarrow \theta = \frac{\pi}{3}$

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$$\frac{\frac{3\sin\theta - \cos\theta}{\cos\theta}}{\frac{\sin\theta - 4\cos\theta}{\cos\theta}} = \frac{3\tan\theta - 1}{\tan\theta - 4} = \frac{15 - 1}{5 - 4} = 14$$

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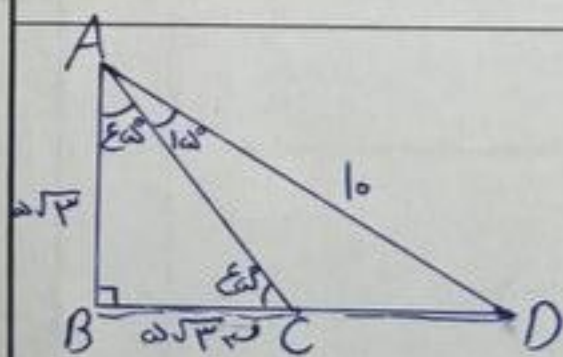
$$\frac{4}{x} = \frac{4}{10} \rightarrow x = 10$$

$$4^2 + y^2 = 10^2 \rightarrow y^2 = 100 - 16 \rightarrow y = 8$$

$$P: 4 + 4 + 10 + 4 + 8 = 38$$

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$$\cos 45^\circ = \frac{AB}{AD} \rightarrow \frac{AB}{10} = \frac{1}{\sqrt{2}} \rightarrow AB = 5 = BC$$

$$\sin 45^\circ = \frac{BD}{AD} \rightarrow \frac{5}{10} = \frac{BD}{10} \rightarrow BD = 5$$

$$CD = BD - BC = 5 - 5 = 0$$

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الف) $\sin \theta$ کاهش $\leftarrow 4, 2$. $\cos \theta$ افزایش $\leftarrow 3, 4$ $\Rightarrow$ ناحیه ۴

ب) $\sin \theta$ کاهش $\leftarrow 4, 2$. $\cos \theta$ کاهش $\leftarrow 1, 2$ $\Rightarrow$ ناحیه ۲

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$$\tan x = \frac{1}{3} \rightarrow \cot x = 3$$

$$\cot^2 x + 1 = \frac{1}{\sin^2 x} \rightarrow 10 = \frac{1}{\sin^2 x} \rightarrow \sin x = \frac{1}{\sqrt{10}} = \frac{\sqrt{10}}{10}$$

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موج نامیه ۳ اس به صفی بستر

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