نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۱۴ ..... کلاس .....

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الف) $\frac{72^\circ \times \pi}{180^\circ} = \frac{2\pi}{5}$ rad

ب) ۱) $\frac{135^\circ \times \pi}{180^\circ} = \frac{135\pi}{180} = \frac{3\pi}{4}$ rad

۲) $\frac{5\pi}{12} \times \frac{180^\circ}{\pi} = \frac{900^\circ}{12} = 75^\circ$

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

$\sqrt{2} - \frac{\sqrt{2}}{2} = \frac{2\sqrt{2}}{2} - \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$

$\frac{\sqrt{2}}{2} + 1 - \sqrt{2} = 1 + \frac{2\sqrt{2}}{2} + \frac{2}{2} = 1 + \frac{4\sqrt{2}}{4} = \frac{4+2\sqrt{2}}{4}$

الف) $\left(\frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2}\right) - \left(\frac{1}{2} \times \frac{1}{2}\right) + 1 + 1$

$\frac{2}{4} \quad \frac{1}{4}$

$\frac{2}{4} - \frac{1}{4} - 1 + 1 = \frac{1}{4}$

سوال ۳

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$\frac{a\pi}{8}$ rad $= 22.5a^\circ$

$\frac{12a}{9}G = 112.5a^\circ$

$\rightarrow 10a + 22.5 + 112.5 = 180^\circ$

$45a = 180^\circ \rightarrow a = 4$

سوال (۲)

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$-\frac{1}{2} \times \frac{1}{2} + \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = -\frac{1}{4} + \frac{2}{4} = \frac{1}{4}$

$\sin^2\theta = \frac{1}{2}$

$\sin = \sqrt{\frac{1}{2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} \rightarrow \theta = 45^\circ$

$\tan 45^\circ = 1$

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$\rightarrow 2 \times \frac{\sqrt{2}}{2} \times \left(1 - \frac{2}{9}\right)$

$= \frac{2\sqrt{2}}{2} \times \left(1 - \frac{1}{2}\right)$

$\frac{2\sqrt{2}}{2} \times \frac{1}{2} = \frac{2\sqrt{2}}{9}$

$\rightarrow \left(1 - \left(\frac{\sqrt{2}}{3}\right)^2\right)^2$

$\frac{2}{9} = \frac{1}{2}$

$\left(\frac{2}{3}\right)^2 = \frac{4}{9}$

$\frac{\frac{2\sqrt{2}}{9}}{\frac{4}{9}} = \frac{2\sqrt{2}}{9} \times \frac{9}{4} = \sqrt{2} \rightarrow \tan\theta = \sqrt{2}$

$\theta = 90^\circ \longrightarrow \frac{90^\circ}{180^\circ} = \frac{\pi}{2}$

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$\tan\theta = 5$

$\frac{\sin\theta}{\cos\theta} = 5 \rightarrow \sin\theta = 5\cos\theta$

$\sin^2\theta + \cos^2\theta = 1 \rightarrow (5\cos\theta)^2 + \cos^2\theta = 1 \rightarrow 25\cos^2\theta + \cos^2\theta = 1 \rightarrow 26\cos^2\theta = 1$

$\frac{26\cos^2\theta}{\cos^2\theta} = \frac{1}{26}$

$A = \sin\theta - 2\cos\theta = 5\cos\theta - 2\cos\theta = 3\cos\theta$

$B = \sin\theta - 2\cos\theta = 5\cos\theta - 2\cos\theta = 3\cos\theta$

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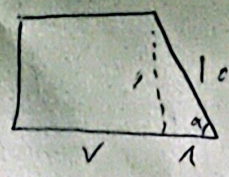

$\sin\alpha = \frac{6}{10} = \frac{3}{5}$

$\sin^2\alpha + \cos^2\alpha = 1 \rightarrow \cos^2\alpha = 1 - \sin^2\alpha = 1 - \frac{9}{25} = \frac{16}{25}$

$\cos\alpha = \frac{4}{5}$

$\tan\alpha = \frac{\sin\alpha}{\cos\alpha} = \frac{\frac{3}{5}}{\frac{4}{5}} = \frac{3}{4}$

$\tan\alpha = \frac{3}{4} = \frac{\text{مقابل}}{\text{مجاور}} \rightarrow$ مجاور $= 4$

$\text{محیط} = 6 + 8 + 10 = 24$

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$\sin(\cancel{50}\ 45) = \frac{\sqrt{2}}{2} = \frac{\text{مقابل}}{\text{وتر}} = \frac{BD}{10} \rightarrow BD = 5\sqrt{2}$

$\cos 45 = \frac{1}{2} = \frac{\text{مجاور}}{\text{وتر}} = \frac{AB}{10} \rightarrow AB = 5$

$\cot 45 = \frac{\sqrt{2}}{2} = \frac{\text{مجاور}}{\text{مقابل}} = \frac{AB}{BC}$

$AD = BC = AC(\cos 45) = 10 \times \frac{1}{2} = 5$

$BC = BD - BC = 10(\sin 45 - 1) = 5\sqrt{2} - 5 = 5(\sqrt{2} - 1)$

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الف)

ب)

$D_f = [-2, 2] \cap [-2, 2] = [-2, 2]$

$D_f = [-2, 2] \cap [-1, 1] = [-1, 1]$

$\sin\theta$ ضابطه $\cos\theta$ ضابطه

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$1 + \tan^2\theta = \frac{1}{\cos^2\theta} \rightarrow 1 + \frac{1}{\frac{9}{16}} = \frac{1}{\cos^2\theta} \rightarrow \cos^2\theta = \frac{9}{16}$

$\sin^2 + \cos^2 = 1$

$\sin^2 = 1 - \cos^2$

$\sin^2\theta = 1 - \frac{9}{16}$

$\sin^2\theta = \frac{7}{16}$

$\sin\sqrt{\frac{7}{16}}$