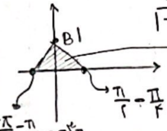
نام و نام خانوادگی ...ملیکا فتوحی... پاسخنامه تشریحی تکلیف شماره ...۱۵... کلاس ...دهم تجربی A...	
$\boxed{\frac{\pi}{2}}$ ← جواب $\quad$ $B \to x=0 \quad \tan(\frac{\pi}{4})=1$ $\frac{2\pi}{\lvert -2 \rvert} = \pi$  $\frac{\pi \times 1}{2} = \frac{\pi}{2} = S$ $\frac{\pi}{2} - \frac{\pi}{4} = \frac{\pi}{4}$ $-\frac{\pi}{2} - \frac{\pi}{4} = -\frac{3\pi}{4}$	۱
$\frac{4}{9} - \frac{2}{3}\sin\alpha - \frac{1}{4}\cancel{\cos^2}\alpha = 0$ $(1-\sin^2\alpha)$ $\frac{4\times4}{9\times4} - \frac{2}{3}\sin\alpha - \frac{1\times9}{4\times9} + \frac{1}{4}\sin^2\alpha = 0$ $\frac{7}{36} - \frac{2}{3}\sin\alpha + \frac{1}{4}\sin^2\alpha = 0$	۲
$\log\left(\frac{\sin\alpha}{-\cos\alpha}\right) = \log 3 \quad \frac{\sin\alpha}{-\cos\alpha} = 3 \quad \tan\alpha = -3$ $\sin x - \cos x \xrightarrow{\text{ربع ۲}}$ $\quad \frac{-3}{\sqrt{10}} - \frac{1}{\sqrt{10}} = \frac{-4}{\sqrt{10}}$ جواب $\sin x = \frac{-3}{\sqrt{10}} \quad \cos x = \frac{1}{\sqrt{10}}$	۳
۰/۸ $\sin^4\theta + 1 - \sin^2\theta = \frac{4}{5} \quad \sin^4\theta - \sin^2\theta + \frac{1}{5} = 0$ $\cos^4\theta + \sin^4\theta, \left(\frac{5-\sqrt{5}}{10}\right)^2 + \left(\frac{5+\sqrt{5}}{10}\right)^2$ $\Delta = 1 - 4\times\frac{1}{5} = \frac{1}{5}$ $x = \frac{1 \pm \sqrt{\frac{1}{5}}}{2} = \frac{5 \pm \sqrt{5}}{10} = \sin^2\theta$ $25 + 10\sqrt{5} + 5 = 30 + 10\sqrt{5}$ $\cos^2\theta = 1 - \sin^2\theta = \frac{5 \mp \sqrt{5}}{10}$ حاصل $\frac{3+\sqrt{5}}{10} + \frac{5-\sqrt{5}}{10} = \frac{8}{10}$	۴
$\frac{\sin\alpha\,(3 + \overset{+}{\cos\alpha})}{2(\underset{+}{-\sin^2\alpha})} < 0$ $\sin\alpha < 0$ $\sin\alpha\,\frac{\sin\alpha}{\cos\alpha} - \frac{1}{\cos\alpha} > 0 \quad 1 - \sin^2\alpha = \cos^2\alpha$ $\frac{-\cos^2\alpha}{\cos\alpha} = -\cos\alpha \quad \cos\alpha < 0$ $\sin < 0$, $\cos\alpha < 0 \to$ ربع سوم	۵

$$\frac{2}{\sin x} = \frac{-3}{\cos x} \qquad 2\cos x = -3\sin x \qquad \cos x = -\frac{3}{2}\sin x \quad \frac{-3}{2}\cdot\frac{2}{\sqrt{13}} = \cos x$$

جواب $-\frac{13}{6}$

$$\frac{9}{4}\sin^2 x + \sin^2 x = 1$$

$$\frac{13}{4}\sin^2 x = 1$$

$$\sin x = \frac{2}{\sqrt{13}}$$

$$\tan x + \cot x = \frac{1}{\underbrace{\sin x}_{\frac{2}{\sqrt{13}}}\ \underbrace{\cos x}_{\frac{-3}{\sqrt{13}}}} = \boxed{\frac{-13}{6}}$$ 6

$$\frac{\sqrt{1+\sin 50}}{\sin 50 + \sin 10} = \frac{\sqrt{1+\cos 40}}{2\sin 30\cos 20} \qquad 2\cos^2 20 \qquad = \frac{\sqrt{2}\cos 20}{2\underbrace{\sin 30}_{\frac{1}{2}}\cos 20} = \sqrt{2}$$ 7

$$\sin 50 = \sin(30+20) = \sin 30\cos 20 + \cos 30\sin 20$$

$$\sin 10 = \sin(30-20) = \sin 30\cos 20 - \cos 30\sin 20$$

$$1 - 2\sin^2\alpha = \cos 2\alpha \qquad 1 - 2\sin^2 5 = \cos 10 \qquad \frac{1-\tan^2 20}{1+\tan^2 20} = \cos 40$$

$\frac{1}{8}\tan 10$

$$2\cos^2 10 - (\sin^2 10 + \cos^2 10) = \cos^2 10 - \sin^2 10 = \cos 20$$

$$\frac{\cancel{\cos 10} \times \cos 20 \times \cos 40 \times \cancel{\sin 10}\ \frac{1}{2}\sin 20}{\sin 10} = \frac{\frac{1}{2}\left(\frac{1}{2}\sin 40\right)\times\cos 40}{\sin 10} = \frac{\frac{1}{2}\times\frac{1}{2}\times\frac{1}{2}\times\sin 80}{\sin 10}$$ $\sin(\frac{\pi}{2}$

$$= \frac{1}{8}\,\frac{\cos 10}{\sin 10} = \boxed{\frac{1}{8}\tan 10}$$ جواب

$$\sin\alpha + 3\cos\alpha = 2 \qquad 5\cos^2\alpha - 5\sin^2\alpha - 12\cos\alpha = 10\cos^2\alpha - 5 - 12\cos\alpha = $$ 9

$$\cos\alpha = C \qquad 1 - \cos^2\alpha \qquad -5 + 5\cos^2\alpha \qquad 10C^2 - 5 - 12C$$

$$\sin\alpha = 2 - 3C \quad \sin^2\alpha + \cos^2\alpha = 1 \qquad 0 - 8 = -8$$

$$4 - 12C + 9C^2 + C^2 = 1 \to 10C^2 - 12C + 3 = 0$$

جواب

$$\sin B\,\sin C = \cos^2\frac{A}{2} \qquad B = 72 \qquad 180 - 144 = 36\ A$$

$$\cos^2\frac{A}{2} = \frac{1+\cos A}{2} \qquad A + B + C = 180 \to A = 180 - B - C$$

$$\cos A = \cos(180 - B - C) = -\cos(B+C)$$ 10

$$\frac{1 - \cos B\cos C + \sin B\sin C}{2} = \sin B\sin C$$

$$\sin B\sin C + \cos B\cos C = 1 \qquad \cos(B-C) = 1 \to B = C = 72$$