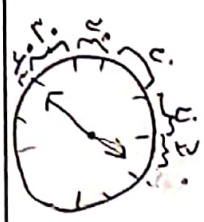
۱۹,۲۵

نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۱۰۹ کلاس دهم ریاضی A .....

۱ (۲)

الف)



$۱۲۰+۲۷+۴۰=۱۸۷^\circ$ ✓

ب)

$\frac{11}{2}m+C.h$

$\frac{11}{2}\times 57+30\times C=2912-90=2822$

$340-207=153^\circ$ ✓

۲ (۲)

الف)

$12+90+9=111^\circ$ ✓

ب)

$\frac{11}{2}m-20h$

$\frac{11}{2}\times 99-20\times 9=99-180$

$=111^\circ$ ✓

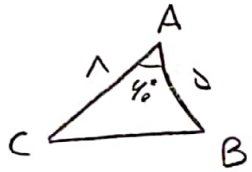
۳ (۲)

الف) $\frac{\pi}{12}\times 9=\frac{3\pi}{4}$ ✓

ب) $\frac{\pi}{9}\times 3=\frac{\pi}{2}+y$ ✓

۴ (۲)

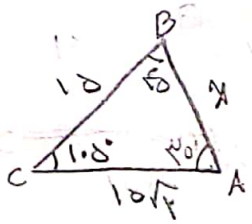
$S_{\hat{ABC}}=\frac{1}{2}\times 5\times 8\times \sin 60^\circ=10\sqrt{3}$ ✓



$P_{\hat{ABC}}=8+5+7=20$ ✓

$a^2=25+49-80\cos 60^\circ=49-40=9=>a=7$ ✓

۵ (۲)



$\frac{10}{\frac{1}{2}}=\frac{10\sqrt{3}}{\sin B}$

$\sin B=\frac{10\sqrt{3}}{2}\times\frac{1}{10}=>B=60^\circ=\frac{\pi}{3}$ ✓

$=>C=105=\frac{7\pi}{12}$ ✓

$\dfrac{-\tan\alpha+2\tan\alpha}{-\tan\alpha-\tan\alpha}=\dfrac{2\tan\alpha}{-2\tan\alpha}=-1$ ✓	۶	۲
ناحیه دوم ـ منفی ! $\dfrac{2\tan(\frac{\pi}{2}-15)+\tan(\frac{\pi}{2}+15^\circ)}{3\tan(\pi-15^\circ)+\tan(\frac{3\pi}{2}-15^\circ)}=\dfrac{2\cot15^\circ-\cot15^\circ}{-3\tan15^\circ-\cot15^\circ}=\dfrac{\cot15^\circ}{-3\tan15^\circ-\cot15^\circ}$ $=\dfrac{\frac{3}{a}}{-3-\frac{1}{a}}=\dfrac{\frac{3}{a}}{\frac{-3a^2-1}{a}}=\dfrac{1}{-3a^2-1}$	۷	۰,۷۵
$\dfrac{(\sin^2x+\cos^2x)^2+(\sin x-\cos x)^2}{\sin^2x-\cos^2x}=3\Rightarrow\dfrac{\sin^2x+\cos^2x+2\sin x\cos x+\sin^2x+\cos^2x-2\sin x\cos x}{\sin^2x-\cos^2x}=3$ $\Rightarrow\dfrac{2}{\sin^2x-\cos^2x}=3\Rightarrow\sin^2x-\cos^2x=\frac{2}{3}\Rightarrow\sin^2x-(1-\sin^2x)=\frac{2}{3}\Rightarrow2\sin^2x-1=\frac{2}{3}\Rightarrow\sin^2x=\frac{5}{6}$ $\tan^2x=\dfrac{\frac{5}{6}}{\frac{1}{6}}=5$ ✓	۸	۲
$\dfrac{\sin^2x-2(1-\sin^2x)+1}{\sin^2x+2(1-\sin^2x)-1}=4\Rightarrow\dfrac{3\sin^2x-1}{-\sin^2x+1}=4\Rightarrow3\sin^2x-1=4\cos^2x$ $2\sin^2x+(\sin^2x-1)=4\cos^2x\Rightarrow2\sin^2x=5\cos^2x\Rightarrow\dfrac{\sin^2x}{\cos^2x}=\dfrac{5}{2}$ ✓	۹	۲
الف) $\cos22/5^\circ=$ $\cos^2 22/5=\dfrac{1+\cos45^\circ}{2}\Rightarrow\cos^2 22/5=\dfrac{\frac{2+\sqrt2}{2}}{2}\Rightarrow\cos22/5=\dfrac{\sqrt{2+\sqrt2}}{2}$ ✓ ب) $\sin(67/5)=\sin(45+22/5)=\sin45\cdot\cos22/5+\cos45\cdot\sin22/5$ $=\frac{\sqrt2}{2}\times\frac{\sqrt{2+\sqrt2}}{2}+\frac{\sqrt2}{2}\times\frac{\sqrt{2-\sqrt2}}{2}=\frac{\sqrt{4+2\sqrt2}}{4}+\frac{\sqrt{4-2\sqrt2}}{4}$	۱۰	۱,۵

فرمول طلایی: $\sin^2 67/5=\dfrac{1-\cos135}{2}=\dfrac{1+\frac{\sqrt2}{2}}{2}\to\sin67/5=\dfrac{\sqrt{2+\sqrt2}}{2}$

Scanned with CamScanner