نام و نام خانوادگی ......محمد اعیانی...... پاسخنامه تشریحی تکلیف شماره ...۱۹... کلاس ...دهم (ب)...

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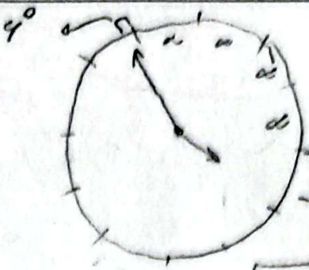
الف)



$= 6 + (4\times 30) + 27 = \boxed{153°}$

ب)

$|\frac{11}{2}m - 30h|$

$|\frac{11}{2}\times 54 - 90| = |297 - 90|$

$= 207 \longrightarrow 360 - 207 = \boxed{153°}$

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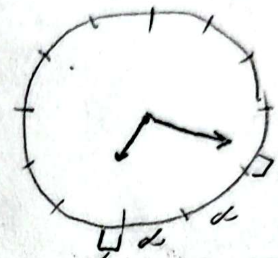
الف)



$9 + (2\times 30) + 12 = \boxed{81°}$

ب)

$|\frac{11}{2}m - 30h|$

$|\frac{11}{2}\times 18 - 540| = |99 - 540|$

$= 441 \longrightarrow 441 - 360 = \boxed{81°}$

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الف) $S_{\text{قطاع}} \longrightarrow = \frac{R^2\times\alpha}{2} = \frac{\pi}{6}\times\frac{1}{2}\times 9 = \boxed{\frac{3\pi}{4}\ cm^2}$ پاسخ

ب) $2P_{\text{قطاع}} \longrightarrow R\alpha = \frac{\pi}{6}\times 3 = \frac{\pi}{2}\ cm \longrightarrow \frac{\pi}{2} + 6\ cm = \boxed{\frac{12+\pi}{2}\ cm}$ پاسخ

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الف) $S_{A\hat{B}C} = \frac{8\times 5\times \sin 60°}{2} = 4\times 5\times\frac{\sqrt{3}}{2} = \boxed{10\sqrt{3}}$

ب) $\overline{CB} = \sqrt{64 + 25 - \cancel{2}\times 5\times 8\times \cos 60} = \sqrt{49} = 7$

$\longrightarrow 2P_{A\hat{B}C} = 5 + 8 + 7 = \boxed{20}$

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$\hat{A} = 30° \longrightarrow \sin 30° = \frac{1}{2}$

$\frac{15}{\sin 30°} = \frac{15\sqrt{2}}{\sin B} \longrightarrow \frac{15\sqrt{2}}{2} = 15\times \sin B \longrightarrow \sin B = \frac{\sqrt{2}}{2}$

حاده $B = \frac{\pi}{4}$

$B = \frac{3\pi}{4}$ ✗

$\hat{B} = \frac{\pi}{4} \longrightarrow C = \frac{5\pi}{6} - \frac{\pi}{4} = \frac{7\pi}{12} \longrightarrow \boxed{\hat{B} = \frac{\pi}{4}}$ $\boxed{C = \frac{7\pi}{12}}$

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$$\frac{\tan(\pi-\alpha)+3\tan(\pi+\alpha)}{\tan(2\pi-\alpha)-\tan(2\pi+\alpha)}=\frac{-\tan\alpha+3(\tan\alpha)}{-\tan\alpha-\tan\alpha}=\frac{2\tan\alpha}{-2\tan\alpha}=\boxed{-1}$$

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$$\frac{\pi}{12}\times\frac{180}{\pi}=15^\circ \longrightarrow \frac{3\tan 75^\circ+\tan 105^\circ}{3\tan 165^\circ-\tan 255^\circ}=\frac{3\tan(\frac{\pi}{2}-15)+\tan(\frac{\pi}{2}+15)}{3\tan(\pi-15)-\tan(\frac{3\pi}{2}-15)}$$

$$=\frac{3\cot 15^\circ+(-\cot 15^\circ)}{3(-\tan 15^\circ)-(\cot 15)}=\frac{\cot 15^\circ}{-3\tan 15^\circ-\cot 15^\circ}=\frac{\frac{1}{a}}{-3a-\frac{1}{a}}=$$

$$=\frac{\frac{1}{a}}{-\frac{3a^2+1}{a}}=\boxed{-\frac{1}{3a^2+1}}$$

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$$\frac{\sin^2x+\cos^2x+\cancel{2\sin x\cos x}+\sin^2x+\cos^2x-\cancel{2\sin x\cos x}}{\sin^2x-\cos^2x}=\frac{1+1}{\sin^2x-\cos^2x}=3$$

$$\frac{2}{-\cos 2x}=3\longrightarrow -3\cos 2x=2\longrightarrow \cos 2x=-\frac{2}{3}$$

$$\tan^2x=\frac{1-\cos 2x}{1+\cos 2x}=\frac{1+\frac{2}{3}}{1-\frac{2}{3}}=\frac{\frac{5}{3}}{\frac{1}{3}}=\boxed{5}$$

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$$\frac{(\sin^2x-\cos^2x)-\cos^2x+1}{(\cancel{\sin^2x+\cos^2x})+\cos^2x-1}=\frac{-\cos 2x+\sin^2x}{\cos^2x}=\frac{-\cos 2x+\frac{1-\cos 2x}{2}}{\frac{1+\cos 2x}{2}}$$

$$=\frac{\frac{-2\cos 2x+1-\cos 2x}{\cancel{2}}}{\frac{1+\cos 2x}{\cancel{2}}}=\frac{-3\cos 2x+1}{1+\cos 2x}=4\longrightarrow 4+4\cos 2x=-3\cos 2x+1$$

$$7\cos 2x=-3\longrightarrow \cos 2x=-\frac{3}{7}$$

$$\longrightarrow \tan^2x=\frac{1-\cos 2x}{1+\cos 2x}=\frac{1+\frac{3}{7}}{1-\frac{3}{7}}=\frac{\frac{10}{7}}{\frac{4}{7}}=\boxed{2.5}$$

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الف) $$(\cos(22.5^\circ))^2=\frac{1+\cos 45^\circ}{2}=\frac{1+\frac{\sqrt2}{2}}{2}=\frac{2+\sqrt2}{4}$$

$$\longrightarrow \boxed{\cos 22.5^\circ=\frac{\sqrt{2+\sqrt2}}{2}}$$

ب) $$(-\sin 67.5^\circ)^2=\frac{1-\cos 135^\circ}{2}=\frac{1+\frac{\sqrt2}{2}}{2}=\frac{2+\sqrt2}{4}$$

$$\longrightarrow \boxed{-\sin 67.5=\frac{\sqrt{2+\sqrt2}}{2}}$$