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

۱

$S = \frac{1}{2} \times 3x \times 3x \times \sin 30^\circ \Rightarrow 9x^2 \times \frac{1}{4} \Rightarrow 3x^2 = 24 \Rightarrow x^2 = 18 \Rightarrow x = 3\sqrt{2}$

$\Rightarrow P = 2(3x + 3x) = 12x \Rightarrow 12(3\sqrt{2}) = 36\sqrt{2}$

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$\frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1+\sin\alpha}{|\cos\alpha|} \Rightarrow$ پس باید $\cos\alpha < 0$ باشد تا جواب دهد

$\frac{|\sin\alpha|}{\cos\alpha} = -\frac{1}{\cot\alpha} \Rightarrow$ $\cos\alpha$ منفی است پس سینوس کمانش باید مثبت باشد تا معادله جواب دهد

$\Rightarrow$ پس در ناحیه‌ی دوم مثلثاتی قرار دارد

(این سؤال برای سؤال ۳ می‌باشد)

۳

$S_{ABC} \Rightarrow \frac{1}{2} \times 12 \times 5 \sin A$ (در واقع این سؤال ۲ می‌باشد)

$S_{ADE} \Rightarrow \frac{1}{2} \times 4 \times 5 \sin A$

$\Rightarrow 30 \sin A = 110 \Rightarrow \sin A = \frac{11}{10} = \frac{3}{4}$ $\Rightarrow$  $\Rightarrow x = \sqrt{7} \Rightarrow \tan\alpha = \frac{\sin\alpha}{\cos\alpha}$

$\Rightarrow \frac{\frac{3}{4}}{\frac{\sqrt{7}}{4}} \Rightarrow \frac{3}{\sqrt{7}} \Rightarrow \frac{\sqrt{7}}{7}$

۴

$\tan(\frac{\pi}{2} - \alpha) = \cot\alpha$

$\Rightarrow \tan(\pi - \alpha) = \frac{11}{2} \times \frac{3}{4}$

$\Rightarrow \tan(\alpha) = -\frac{33}{8} \Rightarrow \cot\alpha = -\frac{8}{33}$

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$\frac{3\cos(\frac{3\pi}{2} - 22) - 2\sin(\pi - 22)}{\sin(\pi + 22) - \cos(\frac{3\pi}{2} + 22)} \Rightarrow \frac{-3\sin(22) - 2\sin(22)}{-\sin(22) - \sin(22)} = \frac{-5}{-2} = 2.5$

$\sin\alpha = -\sqrt{1-\frac{\varepsilon}{9}} \Rightarrow -\frac{\sqrt{\omega}}{3}$ $\quad \tan^2\alpha = \frac{\sin^2\alpha}{\cos^2\alpha} \Rightarrow \frac{\frac{\omega}{9}}{\frac{\varepsilon}{9}} = \frac{\omega}{\varepsilon}$

$\Rightarrow \frac{\sin(\alpha+\frac{\pi}{4}) - \sin(\alpha-\pi)}{|\tan^2\alpha - 1|} \Rightarrow \frac{\cos\alpha + \sin\alpha}{\frac{\omega}{\varepsilon} - 1}$ ٤

$\Rightarrow \frac{\frac{2-\sqrt{\omega}}{3}}{\frac{1}{\varepsilon}} \Rightarrow \frac{\varepsilon}{3}(2-\sqrt{\omega})$

$\sin\alpha = 2\cos\alpha \Rightarrow \sin^2\alpha + \cos^2\alpha = 1 \Rightarrow 4\cos^2\alpha + \cos^2\alpha = 1$

$\Rightarrow 5\cos^2\alpha = 1 \Rightarrow \cos^2\alpha = \frac{1}{5} \Rightarrow \cos\alpha = -\frac{1}{\sqrt{5}}$ ٧

$\tan\alpha = -\frac{\omega}{y} \Rightarrow \frac{-2m}{|m^2-1|} = \sqrt{3} \Rightarrow \sqrt{3}m^2 - \sqrt{3} = -2m \Rightarrow \sqrt{3}m^2 + 2m - \sqrt{3} = 0$

$\Rightarrow \frac{\sqrt{3}}{3}(\sqrt{3}m+3)(\sqrt{3}m-1) \Rightarrow \sqrt{3}m+3=0 \Rightarrow \sqrt{3}m = -3 \Rightarrow m = -\frac{3}{\sqrt{3}}$ ٨

$\Rightarrow \sqrt{3}m - 1 = 0 \Rightarrow \sqrt{3}m = 1 \Rightarrow m = \frac{1}{\sqrt{3}}$

$\Rightarrow |m_1 - m_2| = \frac{\varepsilon}{\sqrt{3}}$

$-\frac{\pi}{\varepsilon} < \alpha < \frac{\pi}{\varepsilon} \Rightarrow -\frac{\pi}{\varepsilon} < -\alpha < \frac{\pi}{\varepsilon} \Rightarrow 0 < \frac{\pi}{\varepsilon} - \alpha < \frac{\pi}{2}$

$\Rightarrow \tan(\frac{\pi}{\varepsilon} - \alpha) > 0 \Rightarrow \frac{1-m}{2+m} > 0 \Rightarrow$ $\begin{array}{c|ccc} & -2 & & 1 \\ \hline - & 0 & + & 0 & - \end{array}$ ٩

$\Rightarrow -2 < m < 1$

$\tan(260)\cos(210) + \tan(150)\sin(180) \Rightarrow \tan(540-40)\cos(180+30) + \tan(540+120)\sin(360+120) \Rightarrow \tan(-40)(\cos(180+30) + \tan(360-40)\sin(360-40)$

$\rightarrow (-\tan(40))(-\cos(30^\circ)) + (-\tan(40^\circ))\sin 40^\circ \Rightarrow$ ١٠

$(-\sqrt{3})(-\frac{\sqrt{3}}{2}) + (-\sqrt{3})(\frac{\sqrt{3}}{2}) \Rightarrow \frac{3}{2} - \frac{3}{2} = 0$