نام و نام خانوادگی .... پاسخنامه تشریحی تکلیف شماره ۲۸ کلاس یازدهم ب B

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$\cot\alpha = \dfrac{\cos\alpha}{\sqrt{1-\cos^2\alpha}} = \dfrac{\cos\alpha}{|\sin\alpha|} \Rightarrow \sin\alpha > 0 \longrightarrow$ ۱ یا ۲ ناحیه

$\dfrac{1}{|\cos\alpha|} - \dfrac{\sin\alpha}{\cos\alpha} = \dfrac{1-\sin\alpha}{|\cos\alpha|} \Rightarrow \cos\alpha > 0 \longrightarrow$ ۱ یا ۴ ناحیه

جهت اول مثلثاتی α در ناحیه ① است

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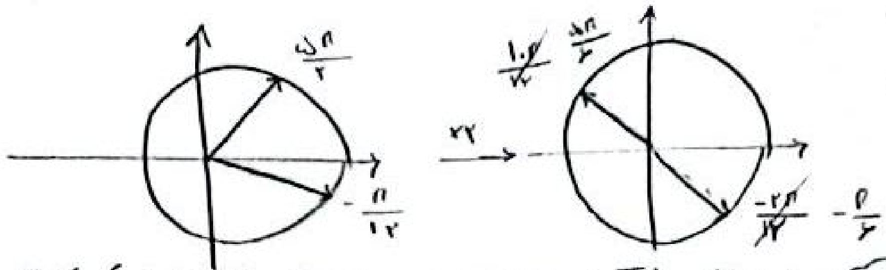

$-\frac{1}{2} < \sin 2x \leq 1$

$-\frac{1}{2} < \frac{m-1}{4} \leq 1$

$II)\ -2 < m-1 \Rightarrow -1 < m \qquad I)\ m-1 \leq 4 \Rightarrow m \leq 5$

$m \in (-1, 5]$

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$\tan x + \cot x = -3 = \dfrac{2}{\sin 2x} \Rightarrow \sin 2x = \dfrac{-2}{3} = 2\sin x \cdot \cos x \Rightarrow \sin x \cdot \cos x = \dfrac{-1}{3}$

$3\pi < 4x < 4\pi \Rightarrow \dfrac{3\pi}{4} < x < \pi$

$(\sin x + \cos x)^2 = \sin^2 x + \cos^2 x + 2\sin x \cdot \cos x = \dfrac{2}{3} \Rightarrow \sin x + \cos x = \pm\sqrt{\dfrac{2}{3}}$

ص.ا.ل $\rightarrow -\sqrt{\dfrac{2}{3}}$

$\dfrac{1}{(\sin x + \cos x)(\sin^2 x + \cos^2 x - \sin x \cdot \cos x)} = \dfrac{1}{(\sin x + \cos x)(1 + \frac{1}{3})} = \dfrac{-3\sqrt{6}}{8}$

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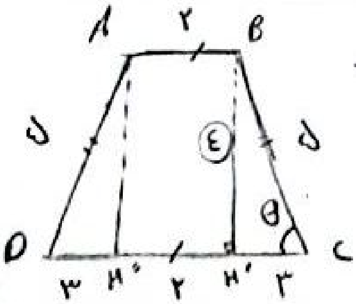

$\dfrac{CH'}{5} = \dfrac{6}{10} \Rightarrow CH' = 3$

$S = \dfrac{(2+8) \times 4}{2} = 20$

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$\tan(\frac{3\pi}{2} + 15) \times \tan(\pi + 15) - \sin(\pi + 15) \times \cos(\frac{3\pi}{2} - 15) \Rightarrow$

$(-\cot 15 \times \tan 15) - (-\sin 15 \times -\sin 15) = -1 + \sin^2 15 = -\cos^2 15 \Rightarrow$

$K = -1$

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$$A = \sqrt{۳}\times\cos(\pi+۳۰)\times\sin\left(\frac{۳\pi}{۲}-۲۷\right) - \left(\sqrt{۲}\sin\left(\frac{\pi}{۲}+۴۵\right)\times\cos(\pi-۲۷)\right.$$

$$\sqrt{۳}\times\left(-\frac{\sqrt{۳}}{۲}\right)\times-\cos۲۷ = \frac{۳}{۲}\cos۲۷$$

$$\sqrt{۲}\times\frac{\sqrt{۲}}{۲}\times-\cos۲۷ = -\cos۲۷$$

$$A = \frac{۳}{۲}\cos۲۷ + \cos۲۷ = \frac{۵}{۲}\cos۲۷$$

$$\frac{A}{\cos۲۷} = \frac{۵}{۲} = ۲.۵ \blacksquare$$

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$$f(x) = ۱۶\cos^۲\left(\frac{\pi}{۱۲}\right)\times\cos^۲\left(\frac{\pi}{۴}\right)\times\cos^۲\left(\frac{۲\pi}{۳}\right)$$

$$= \frac{۱}{۴}\times\frac{۱}{۴}\times\frac{۳}{۴}\times(۸+۴\sqrt{۳}) \xrightarrow{\times۱۶} ۸+۴\sqrt{۳}$$

$$\cos\frac{\pi}{۱۲} = \frac{\sqrt{۶}+\sqrt{۲}}{۴} \xrightarrow{\text{توان ۲}} \frac{۸+۴\sqrt{۳}}{۱۶}$$

$$\frac{۲۴+۱۲\sqrt{۳}}{۶۴} = \frac{۶+۳\sqrt{۳}}{۱۶} \blacksquare$$

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$$\frac{۱-\sin x}{۱+\sin x} = ۴ \Rightarrow ۴+۴\sin x = ۱-\sin x \Rightarrow ۵\sin x = -۳ \Rightarrow \sin x = \frac{-۳}{۵}$$

$$\cos x = \frac{-۴}{۵}$$

$$\tan\frac{x}{۲} = \frac{\frac{-۳}{۵}}{\frac{۱}{۵}} = -۳ \blacksquare \leftarrow \left|\tan\frac{x}{۲} = \frac{\sin x}{۱+\cos x}\right.$$

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$$\left(\frac{\sin\theta}{۱-\cos\theta}\right) + \left(\frac{۱+\cos\theta}{\sin\theta}\right) = k\cot\frac{\theta}{۲} \Rightarrow k = ۲ \blacksquare$$

$$\frac{۲\sin\frac{\theta}{۲}\cdot\cos\frac{\theta}{۲}}{\sin^۲\frac{\theta}{۲}+\cos^۲\frac{\theta}{۲}-(\cos^۲\frac{\theta}{۲}-\sin^۲\frac{\theta}{۲})}\cot\frac{\theta}{۲} - \frac{۲\sin\frac{\theta}{۲}\cdot\cos\frac{\theta}{۲}}{۲\sin^۲\frac{\theta}{۲}} = \cot\frac{\theta}{۲}$$

۱۰

$$\sin\alpha = \frac{\sqrt{۲}}{۱۰} \Rightarrow \cos\alpha = \frac{-\sqrt{۹۸}}{۱۰} = \frac{-۷\sqrt{۲}}{۱۰}$$

$$\cos\left(\frac{۱۱\pi}{۴}+\alpha\right) = \cos\left(۳\pi-\frac{\pi}{۴}+\alpha\right) = -\cos\left(\frac{\pi}{۴}-\alpha\right)$$

$$-\left(\frac{\sqrt{۲}}{۲}\times\frac{-۷\sqrt{۲}}{۱۰} + \frac{\sqrt{۲}}{۲}\times\frac{\sqrt{۲}}{۱۰}\right) = \frac{۱۲}{۲۰} = ۰.۶ \blacksquare$$