

پایسین بی زاده ، روز دهم دختر B تکلیف شماره ۱۷

۲. آفرین ضعیف عالی نوشت!

$$\wedge \cos n = 1 + \tan^2 n : \frac{1}{\cos^2 n} \Rightarrow \wedge \cos^2 n = 1 \quad (۱)$$

$$\cos^2 n = \frac{1}{\wedge} \quad \cos = \frac{1}{\sqrt{}} \quad n = \frac{\pi}{\sqrt{}} \text{ و } \frac{\delta \pi}{\sqrt{}} \text{ جواب}$$

$$\delta \sin^2(n) + \sqrt{} \cos(\sqrt{}n) = \delta(1 - \cos^2 n) + \sqrt{} \cos^2 n = -\sqrt{} \quad (۲)$$

$$\delta - \delta \cos^2 n + \epsilon \cos^2 n = (-\epsilon)$$

$$\delta \cos^2 n - \epsilon \cos^2 n = 0 \Rightarrow \cos^2 n = (-1) \text{ و } \cos^2 n = 1$$

$$\cos^2 n = 1 \rightarrow n = k\pi \rightarrow \{-\pi, 0, \pi\} \quad \wedge \rightarrow n = \{-\pi, \pi\}$$

$$\cos^2 n = -1 \rightarrow n = \{-\pi, \pi\} \quad \text{جواب}$$

$$\sqrt{} \sin n (1 - \sqrt{} \sin^2 n) + \sin n = 1 \quad (۳)$$

$$\sqrt{} \sin n - \epsilon \sin^2 n + \sin n = \sqrt{} \sin n - \epsilon \sin^2 n = 1$$

$$\sin^2 n = 1 \quad \sqrt{} n = \sqrt{} k\pi + \frac{\pi}{\sqrt{}}$$

$$n = \frac{\sqrt{} k\pi + \frac{\pi}{\sqrt{}}}{\sqrt{}}$$

$$\text{مجموع جواب} = \frac{\pi}{4} + \frac{\delta \pi}{4} + \frac{9\pi}{4} = \frac{\delta \pi}{\sqrt{}}$$

$$\frac{1}{\sin(\frac{\pi}{\sqrt{}} + \sqrt{}n)} + \frac{1}{\cos(\frac{\pi}{\sqrt{}} + \epsilon n)} = \frac{1}{\cos \sqrt{}n} + \frac{1}{-\sin \epsilon n} = 0 \quad (۴)$$

$$\frac{\cos \sqrt{}n - \sqrt{} \sin \sqrt{}n \cos \sqrt{}n}{-\cos \sqrt{}n \cdot \sin \epsilon n} = \frac{\cos \sqrt{}n (1 - \sqrt{} \sin \sqrt{}n)}{-\cos \sqrt{}n \cdot \sin \epsilon n} = 0$$

$$1 - \sqrt{} \sin \sqrt{}n = 0 \Rightarrow \sin \sqrt{}n = \frac{1}{\sqrt{}}$$

$$\text{جواب های مشابه در بازه } [0, \pi] \Rightarrow \alpha = \frac{\epsilon \pi}{\sqrt{}} = \frac{\pi}{\sqrt{}}$$

$$\tan \sqrt{} \alpha = \tan \frac{\sqrt{} \pi}{\sqrt{}} = -\sqrt{\sqrt{}}$$

$$\cos\left(x + \frac{\pi}{4}\right) = \frac{\sqrt{2}}{2} \cos x - \frac{\sqrt{2}}{2} \sin x = \frac{1}{\sqrt{2}} \quad (D)$$

$$\Rightarrow \cos x - \sin x = \frac{\sqrt{2}}{\sqrt{2}}$$

$$\text{نحوه تقسیم بر } \sqrt{2} \rightarrow 1 - \sin x \cos x = \frac{1}{\sqrt{2}} \Rightarrow \sin 2x = \frac{1}{\sqrt{2}}$$

$$m \times (\cos x - \sin x) = m \times \frac{\sqrt{2}}{\sqrt{2}} = \sqrt{4} (1 + \sqrt{2} \sin 2x)$$

$$m = \sqrt{2} \times (1 + \sqrt{2} \sin 2x) = \sqrt{2} (1 + \sqrt{2} (\frac{1}{\sqrt{2}})) = 4$$

$$\sin\left(x + \frac{\pi}{4}\right) = \cos\left(\frac{\pi}{2} - x\right) \quad (4)$$

$$\cos\left(\frac{\pi}{2} - x\right) = \cos\left(x - \frac{\pi}{2}\right) \rightarrow \text{مقدار } \cos$$

$$\left(\cos\left(x - \frac{\pi}{2}\right)\right)^2 = 1 \quad \cos\left(x - \frac{\pi}{2}\right) = \pm 1$$

$$x - \frac{\pi}{2} = 2k\pi \rightarrow x = 2k\pi + \frac{\pi}{2} \rightarrow \left\{ \frac{\pi}{2} \right\}$$

$$x - \frac{\pi}{2} = 2k\pi + \pi \rightarrow x = 2k\pi + \frac{3\pi}{2} \rightarrow \left\{ \frac{3\pi}{2} \right\}$$

$$\text{نحوه تقسیم بر } \sqrt{2} \rightarrow \frac{1}{\sqrt{2}} \sin x + \frac{\sqrt{2}}{2} \cos x = \frac{\sqrt{2}}{2} \quad (V)$$

$$\sin\left(x + \frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$x + \frac{\pi}{4} = 2k\pi + \frac{\pi}{4} \rightarrow x = 2k\pi \rightarrow \left\{ -\frac{\pi}{12}, \frac{11\pi}{12} \right\}$$

$$x + \frac{\pi}{4} = 2k\pi + \frac{3\pi}{4} \rightarrow x = 2k\pi + \frac{\pi}{2} \rightarrow \left\{ \frac{5\pi}{12}, \frac{13\pi}{12} \right\}$$

$$-\frac{\pi}{12} + \frac{5\pi}{12} + \frac{13\pi}{12} + \frac{11\pi}{12} = \frac{22\pi}{12} \quad \checkmark$$

$$\sin x \cdot (-\cos x) = 1 \Rightarrow -\sin 2x = 1 \quad (A)$$

$$\sin 2x = -1$$

$$2x = 2k\pi - \frac{\pi}{2} \rightarrow x = k\pi - \frac{\pi}{4} \rightarrow \left\{ \frac{11\pi}{12}, \frac{19\pi}{12} \right\}$$

$$2x = 2k\pi - \frac{3\pi}{2} \rightarrow x = k\pi - \frac{3\pi}{4} \rightarrow \left\{ \frac{5\pi}{12}, \frac{17\pi}{12} \right\}$$

$$\frac{11\pi}{12} + \frac{5\pi}{12} + \frac{19\pi}{12} + \frac{17\pi}{12} = 22\pi \quad \checkmark$$

$$\nu \cos^2 \alpha \cdot \nu \cos^2 2\alpha \cdot \nu \cos^2 \varepsilon \alpha = \frac{1}{\lambda} \quad (9)$$

كل عبارت ا، ب، تقسيم في اثنين

$$\nu \sin^2 \alpha \cos^2 \alpha = \frac{1}{\nu} \sin^2 2\alpha \cdot \nu \cos^2 2\alpha = \frac{1}{\varepsilon} \sin^2 \varepsilon \alpha$$

$$\frac{1}{\varepsilon} \sin^2 \varepsilon \alpha \cdot \nu \cos^2 \varepsilon \alpha = \frac{1}{\lambda} \sin^2 \Lambda \alpha$$

$$\Rightarrow \frac{\frac{1}{\lambda} \sin^2 \Lambda \alpha}{\sin^2 \alpha} = \frac{1}{\lambda} \Rightarrow \frac{\sin^2 \Lambda \alpha}{\sin^2 \alpha} = 1 \Rightarrow \sin \Lambda \alpha = \pm \sin \alpha$$

$\alpha \neq \pi, 0 \leftarrow \sin^2 \alpha$

$$① \Lambda \alpha = \alpha + \nu k \pi \rightarrow \alpha = \frac{\nu}{\Lambda} k \pi \Rightarrow \alpha_{\text{أيمان}} = \frac{4\pi}{\nu}$$

$$② \Lambda \alpha = \nu k \pi + \pi - \alpha \rightarrow 2\alpha = \nu k \pi + \pi \Rightarrow \alpha_{\text{أيمان}} = \frac{\nu \pi}{2}$$

$$③ \Lambda \alpha = \nu k \pi - \pi + \alpha \rightarrow \nu \alpha = \nu k \pi - \pi \Rightarrow \alpha_{\text{أيمان}} = \frac{8\pi}{\nu}$$

$$④ \Lambda \alpha = \nu k \pi - \alpha \Rightarrow 2\alpha = \nu k \pi \Rightarrow \alpha_{\text{أيمان}} = \frac{\Lambda \pi}{2}$$

سلسلة عدد
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= $\frac{\Lambda \pi}{2}$

$$\tan \nu n = \frac{1}{\tan n} = \cot n = \tan \left(\frac{\pi}{\nu} - n \right) \quad (10)$$

$$\nu n = k \pi + \frac{\pi}{\nu} - n \rightarrow \varepsilon n = k \pi + \frac{\pi}{\nu}$$

$$n = \frac{k \pi}{\varepsilon} + \frac{\pi}{\Lambda} \rightarrow \left\{ \frac{9\pi}{\Lambda}, \frac{11\pi}{\Lambda}, \frac{13\pi}{\Lambda}, \frac{15\pi}{\Lambda} \right\}$$

$$\frac{9\pi}{\Lambda} + \frac{11\pi}{\Lambda} + \frac{13\pi}{\Lambda} + \frac{15\pi}{\Lambda} = 4\pi$$