

19

10 October 2024
Thursdayپایا انور
تعلیم ۱۷

پنجشنبه ۶ ربیع الثانی ۱۴۴۶

۱۴۰۳/۷/۱۹

مر

$$1 - \cos \theta = 1 + \tan^2 \theta = \frac{1}{\cos^2 \theta} \Rightarrow 1 = \frac{1}{\cos^2 \theta} \Rightarrow \cos \theta = \pm \frac{1}{2} \Rightarrow$$

$$\Rightarrow n = 2k\pi \pm \pi/3 \rightarrow \left(\frac{\pi}{3}\right) \left(\frac{5\pi}{3}\right)$$

جواب ۲

$$2 - \sin(1 - \cos^2) + 2\cos \theta = -2 \cos \theta \Rightarrow 2\cos \theta - \cos^2 \theta = -2 \cos \theta$$

$$1 \cos \theta - \sin^2 \theta - 4\cos \theta + 4 = 0 \Rightarrow (\cos \theta + 1)(1 \cos \theta - 13\cos \theta + 4) = 0 \Rightarrow$$

$$\cos \theta = -1 \Rightarrow n = 2k\pi + \pi \Rightarrow n = (-\pi) (\pi)$$

جواب ۱۰

$$3 - \sin(2\cos \theta + 1) = 1 = \sin(3 - 4\sin^2 \theta) = -4\sin^2 \theta + 3\sin \theta \rightarrow$$

$$\rightarrow \sin \theta - 4\sin^2 \theta = 1 \Rightarrow \sin \theta = 1 \Rightarrow n = 2k\pi + \pi/2 \Rightarrow$$

$$n = \frac{2k\pi}{2} + \pi/2 \Rightarrow n = \left(\frac{\pi}{2}\right) \left(\frac{5\pi}{2}\right) \left(\frac{9\pi}{2}\right) \left(\frac{13\pi}{2}\right) \Rightarrow \pi/2, 5\pi/2, 9\pi/2, 13\pi/2$$

جواب ۵

۲

11 October 2024
Friday

جمعه ۷ ربیع الثانی ۱۴۴۶

۱۴۰۳/۷/۲۰

مر

$$4 - \frac{1}{\sin(\pi/4 + 2n)} + \frac{1}{\cos(\pi/4 + 2n)} = 0 \Rightarrow \cos \theta \sin \theta = 0 \Rightarrow$$

$$\Rightarrow \cos \theta (1 - 2\sin^2 \theta) = 0 \Rightarrow \sin \theta = \pm \frac{1}{2} \Rightarrow n = \left(\frac{\pi}{12}\right) \left(\frac{5\pi}{12}\right) \left(\frac{7\pi}{12}\right) \left(\frac{11\pi}{12}\right)$$

$$\frac{5\pi}{12} - \frac{\pi}{12} = \pi/3 \Rightarrow \tan(\pi/3) = \sqrt{3}$$

جواب ۱۱

14.3/7/21

شبه ٨ ربيع الثاني ١٤٤٦

$$\Delta - \cos(n + \pi/4) = \frac{\sqrt{2}}{2} (\cos n - \sin n) = \frac{1}{\sqrt{2}} \Rightarrow \cos n - \sin n = \frac{\sqrt{2}}{\sqrt{2}}$$

$$(\cos n - \sin n)^2 = 1 - \sin 2n = \frac{1}{2} \Rightarrow \sin 2n = \frac{1}{2}$$

$$\frac{m\sqrt{2}}{\sqrt{2}} - \sqrt{2} = \sqrt{2} \Rightarrow m = 4$$

$$9 - n - \pi/4 = (n + \pi/4) - \pi/4 \Rightarrow \cos(n - \pi/4) = \sin(n + \pi/4) \Rightarrow \sin(n + \pi/4) = 1 \Rightarrow \sin(n + \pi/4) = \pm 1 \Rightarrow n = \pi/4, 5\pi/4$$

$$11 - \sqrt{2} \sin(\pi/4 + n) = \sqrt{2} \Rightarrow \sin(\pi/4 + n) = \frac{\sqrt{2}}{\sqrt{2}} = \sin(\pi/4) \Rightarrow$$

$$\pi/4 + n = 2k\pi + \pi/4 \Rightarrow n = 2k\pi \rightarrow \frac{2k\pi}{12} \quad \left. \begin{array}{l} 2k\pi + \pi/2 \Rightarrow n = 2k\pi + \pi/2 \rightarrow \frac{\pi/2}{12} \end{array} \right\} \Rightarrow \frac{\pi/2}{12}, \frac{\pi/4}{12}$$

$$14 - \sin(2\pi/3 - n) = -\frac{1}{2} \Rightarrow -\sin(2\pi/3 - n) = -\frac{1}{2} \Rightarrow \sin(2\pi/3 - n) = \frac{1}{2} \Rightarrow$$

$$\Rightarrow \sin(2\pi/3 - n) = \frac{1}{2} \Rightarrow 2\pi/3 - n = \pi/6 \Rightarrow n = \pi/2 \rightarrow \frac{11\pi}{12}, \frac{5\pi}{12}$$

$$\sin(2\pi/3 - n) = \frac{1}{2} \Rightarrow 2\pi/3 - n = 5\pi/6 \Rightarrow n = \pi/6 \rightarrow \frac{7\pi}{12}, \frac{13\pi}{12}$$

$$9 - (\cos \alpha)(\cos \beta)(\cos \gamma) = \frac{1}{8} \Rightarrow \cos \alpha \cos \beta \cos \gamma = \pm \frac{1}{8}$$

$$\frac{1}{8} \cos \alpha \cos \beta \cos \gamma = \pm \frac{1}{8} \Rightarrow \cos \alpha \cos \beta \cos \gamma = \pm 1 \Rightarrow \alpha = \beta = \gamma = 0 \Rightarrow \alpha = \beta = \gamma = 0$$

$$\textcircled{5} \cos \alpha = -\cos \beta = \cos \gamma \Rightarrow \alpha = \beta = \gamma \Rightarrow \alpha = \beta = \gamma = \pi/2 \Rightarrow \alpha = \beta = \gamma = \pi/2$$

$$\alpha = \beta = \gamma = \pi/2 \Rightarrow \alpha = \beta = \gamma = \pi/2$$

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13 October 2024
S u n d a y

یکشنبه ۹ ربیع الثانی ۱۴۴۶

۱۴۰۳/۷/۲۲ ◀



$$1. - \tan(\pi/2 - n) = \cot n \Rightarrow \tan n = \cot(\pi/2 - n) \Rightarrow$$

$$\pi n = k\pi + \pi/2 - n \Rightarrow n = k\pi/2 + \pi/4 \rightarrow \left(\frac{9\pi}{4}\right) \left(\frac{11\pi}{4}\right) \left(\frac{13\pi}{4}\right) \left(\frac{15\pi}{4}\right) \Rightarrow$$

$$\Rightarrow \boxed{\sum = 9\pi}$$