

19

10 October 2024
Thursday

پنجشنبه ۶ ربیع الثانی ۱۴۴۶

پایا انور تالیف ۱۷

19

۱۴۰۳/۷/۱۹

مر

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

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

جواب ۲

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

$$1 \cos n - \sin^2 n - 4 \cos n + 7 = 0 \Rightarrow (\cos + 1)(1 \cos - 13 \cos + 7) = 0 \Rightarrow$$

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

جواب ۱۰

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

$$\rightarrow \sin(3 - 4\sin^2) - 4\sin^2 + 3\sin = \sin n = 1 \Rightarrow n = 2k\pi + \pi/2 \Rightarrow$$

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

جواب ۵

۲

11 October 2024
Friday

جمعه ۷ ربیع الثانی ۱۴۴۶

۱۴۰۳/۷/۲۰

مر

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

$$\Rightarrow \cos n (1 - 2\sin^2) = 0 \Rightarrow \sin n = 1/2 \Rightarrow n = \left(\frac{\pi}{6}\right) \left(\frac{5\pi}{6}\right), \cos n = 0 \Rightarrow \frac{\pi}{2}$$

$$\frac{5\pi}{6} - \frac{\pi}{6} = \pi/2 \Rightarrow \tan(\pi/2) = -\sqrt{3}$$

Bild & Vision

14.3/7/21

شبه ٨ ربيع الثاني ١٤٤٦

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

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

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

$$9 - n - \pi/4 = (n + \pi/4) - \pi/4 \Rightarrow \cos(n - \pi/4) = \sin(n + \pi/4) \Rightarrow$$

$$\sin(n + \pi/4) = 1 \Rightarrow \sin(n + \pi/4) = \pm 1 \Rightarrow n = \frac{\pi}{4}, \frac{5\pi}{4}$$

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

$$\pi/4 + n = k\pi + \pi/4 \Rightarrow n = k\pi \rightarrow \frac{\pi}{12}, \frac{13\pi}{12} \Rightarrow \frac{\pi}{12}, \frac{13\pi}{12}$$

$$14 - \sin(\pi/4 - n) = -\sin n \Rightarrow -\sin n \cos n = -2 \sin n = 1 \Rightarrow$$

$$\Rightarrow \sin n = -\frac{1}{2} \Rightarrow n = \frac{7\pi}{6}, \frac{11\pi}{6}$$

$$2k\pi - \pi/4 = k\pi - \pi/4 \rightarrow \frac{11\pi}{12}, \frac{13\pi}{12}$$

$$2k\pi - 5\pi/4 = k\pi - 5\pi/4 \rightarrow \frac{7\pi}{12}, \frac{19\pi}{12}$$

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

$$\frac{1}{8} \cos \alpha = \pm \frac{1}{8} \Rightarrow \cos \alpha = \pm \frac{1}{8} \Rightarrow \alpha = \arccos(\pm \frac{1}{8}) = \arccos(\frac{1}{8})$$

$$\textcircled{5} \cos \alpha = -\cos \beta = \sin \alpha \Rightarrow \alpha = \frac{\pi}{2} - \beta \Rightarrow \alpha = \frac{\pi}{2} - \beta \Rightarrow \alpha = \frac{\pi}{2} - \beta$$

$$\alpha = \frac{\pi}{2} - \beta \Rightarrow \alpha = \frac{\pi}{2} - \beta \Rightarrow \alpha = \frac{\pi}{2} - \beta$$

$$\alpha = \frac{\pi}{2} - \beta \Rightarrow \alpha = \frac{\pi}{2} - \beta \Rightarrow \alpha = \frac{\pi}{2} - \beta$$

ولادت حضرت امام حسن عسکری علیه السلام (ق. ٢٣٢ هـ)

۲۲

13 October 2024
S u n d a y

یکشنبه ۹ ربیع الثانی ۱۴۴۶

۱۴۰۳/۷/۲۲ ◀



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

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

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

