

۱۳۷۵

روز چهارشنبه ۲۳ شهریور ۱۳۷۵

$$\cos^2 m = \sin^2 m - 1$$

$$\cos^2 m = \cos^2 m - \sin^2 m \quad (1)$$

$$\cos^2 m - \sin^2 m = \sin^2 m - 1 \quad +1 \rightarrow \cos^2 m + 1 - \sin^2 m$$

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روز اول ۲۲

$$1 - \sin^2 m - \sin^2 m = 0 \rightarrow 1 - 2\sin^2 m = 0 \rightarrow \sin^2 m = \frac{1}{2} \rightarrow \sin m = \pm \frac{1}{\sqrt{2}}$$

$$\sin m = \frac{1}{\sqrt{2}}$$



$$2k\pi + \frac{\pi}{4}$$

$$2k\pi + \pi - \frac{\pi}{4} = 2k\pi + \frac{3\pi}{4}$$

$$\cos^2 m = 1 - \sin^2 m$$

$$\frac{-1 \pm \sqrt{1}}{2} = \frac{-1 \pm 1}{2} = 0 \text{ or } -1$$

$$(b) \cos^2 m + \cos m - 1 = 0 \Rightarrow \cos^2 m - \sin^2 m + \cos m - 1 = 0$$

$$1 - \sin^2 m + \cos m - 1 = 0 \Rightarrow -\sin^2 m + \cos m = 0 \Rightarrow \cos m = \sin^2 m$$

$$\Delta = 1 + 1 = 2 \rightarrow \frac{-1 \pm \sqrt{2}}{2}$$



$$2k\pi$$

$$(\sin^2 m - \cos^2 m)(\sin^2 m + \cos^2 m)$$

شکست حصر آبادانی در عملیات ثامن الائمه علیه السلام (۱۳۶۰ هـ ش) - روز گردشگری

$$(a) \sin^2 m - \cos^2 m = \sin^2 m \Rightarrow \sin^2 m - \cos^2 m = \sin^2 m \quad (2)$$

$$\sin^2 m - \cos^2 m = 0 \Rightarrow \sin^2 m = \cos^2 m \Rightarrow \sin m = \pm \cos m$$

$$\Rightarrow \sin m = \cos m \Rightarrow m = \frac{\pi}{4} + k\pi$$

$$\Rightarrow \sin m = -\cos m \Rightarrow m = \frac{3\pi}{4} + k\pi$$

$$(b) \cos^2 m + \sin m \cos m = 1 \Rightarrow \cos m (\cos m + \sin m) = 1$$

$$\cos m = 1 \Rightarrow m = 2k\pi \quad \text{or} \quad \cos m + \sin m = \frac{1}{\cos m}$$

$$\cos m + \sin m = \sec m \Rightarrow \cos m + \sin m = \frac{1}{\cos m} \Rightarrow \cos^2 m + \sin m \cos m = 1$$

$$(a) \cot m (\cos m + 1) = \frac{1}{\sin m} \Rightarrow \frac{\cos m (\cos m + 1)}{\sin m} = \frac{1}{\sin m}$$

$$\cos m (\cos m + 1) = 1 \Rightarrow \cos^2 m + \cos m - 1 = 0 \Rightarrow \Delta = 1 + 4 = 5 \rightarrow \frac{-1 \pm \sqrt{5}}{2}$$

$$\cos m = \frac{-1 \pm \sqrt{5}}{2} \Rightarrow m = \arccos\left(\frac{-1 \pm \sqrt{5}}{2}\right)$$

$$\tan^2 u + \tan u - 1 = 0 \Rightarrow \tan u = \frac{-1 \pm \sqrt{5}}{2}$$

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

$$\sin^2 m - \sin m \cos m + \cos^2 m = 1 \Rightarrow \sin^2 m - \sin m \cos m + \cos^2 m = 1$$

$$\sin^2 m - \sin m \cos m + \cos^2 m = 1 \Rightarrow \sin^2 m - \sin m \cos m + \cos^2 m = 1$$

$$\sin^2 m - \sin m \cos m + \cos^2 m = 1 \Rightarrow \sin^2 m - \sin m \cos m + \cos^2 m = 1$$

$\cos(\frac{\pi}{4} + m) \cos(m - \frac{\pi}{4}) = \frac{1}{2} \Rightarrow \frac{1}{2} \sin(\frac{\pi}{4} - m) = \frac{1}{2} \Rightarrow \sin(\frac{\pi}{4} - m) = \frac{1}{2}$
 $m = k\pi + \frac{\pi}{4} \Rightarrow \sin(\frac{\pi}{4} + k\pi) = \frac{1}{2} \Rightarrow \sin k\pi + \frac{\pi}{4} = \frac{\pi}{4} - m \Rightarrow m = -k\pi + \frac{\pi}{4}$
 $m = -k\pi + \frac{\pi}{4} \Rightarrow k\pi + \pi - \frac{\pi}{4} = \frac{\pi}{4} - m \Rightarrow m = -k\pi + \frac{\pi}{4}$

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1444 ربيع الاول ٢٤

$m = \frac{k\pi}{2} - \frac{\pi}{4}$
 $\cos(\frac{\pi}{4} - m) = \cos(\frac{\pi}{4} - (\frac{k\pi}{2} - \frac{\pi}{4})) = \cos(\frac{\pi}{4} - \frac{k\pi}{2} + \frac{\pi}{4}) = \cos(\frac{\pi}{2} - \frac{k\pi}{2}) = \sin(\frac{k\pi}{2})$
 $\sin(\frac{\pi}{4} - m) = \sin(\frac{\pi}{4} - (\frac{k\pi}{2} - \frac{\pi}{4})) = \sin(\frac{\pi}{4} - \frac{k\pi}{2} + \frac{\pi}{4}) = \sin(\frac{\pi}{2} - \frac{k\pi}{2}) = \cos(\frac{k\pi}{2})$

$\sin^2 m + \sin^2 m - \sin^2 m = \cos^2 m \Rightarrow \frac{\sin^2 m}{\sin^2 m} + 1 = \sin^2 m + \cos^2 m$
 $\sin^2 m = 0 \Rightarrow \sin m = 0 \Rightarrow m = k\pi$
 $m = \frac{k\pi}{2} + \frac{\pi}{4}$
 $m = \frac{k\pi}{2}$

$\frac{\sin^2 m}{1 + \cos^2 m} = \frac{1}{\sin^2 m} + \frac{\cos^2 m}{\sin^2 m} \Rightarrow \frac{\cos^2 m}{\sin^2 m} + \frac{\cos^2 m}{\sin^2 m} = 0 \Rightarrow \frac{2\cos^2 m}{\sin^2 m} = 0$
 $\cos^2 m = 0 \Rightarrow \cos m = 0 \Rightarrow m = \frac{\pi}{2} + k\pi$
 $m = -\frac{\pi}{2} + k\pi$

$\frac{1 - \tan m}{1 + \tan m} = \tan(\frac{\pi}{4} - m) \Rightarrow m = k\pi + \frac{\pi}{4}$
 $\cos m, \sin m \neq 0 \Rightarrow m \neq k\pi \pm \frac{\pi}{2}$
 $1 + \tan m \neq 0 \Rightarrow m \neq k\pi + \frac{3\pi}{4}$
 $\cos^2 m - \sin^2 m \cos^2 m \Rightarrow \sin^2 m = 0 \Rightarrow m = k\pi$
 $k=0 \Rightarrow 0$
 $k=1 \Rightarrow \frac{\pi}{2}$
 $k=2 \Rightarrow \pi$

$1 + \sin^2 m = 2\cos^2 m \Rightarrow 1 + \sin^2 m = 2(1 - \sin^2 m) \Rightarrow 1 + \sin^2 m = 2 - 2\sin^2 m \Rightarrow 3\sin^2 m = 1 \Rightarrow \sin^2 m = \frac{1}{3} \Rightarrow \sin m = \pm \frac{1}{\sqrt{3}}$
 $\sin(m - \frac{\pi}{4}) = \frac{1}{\sqrt{3}} \Rightarrow \cos - \sin m = -\frac{1}{\sqrt{3}}$

$(\sin^2 m - \cos^2 m)(\sin^2 m + \cos^2 m) = 1 \Rightarrow \sin^2 m = 1 + \cos^2 m \Rightarrow \sin^2 m = 1 + 1 = 2 \Rightarrow \sin m = \pm \sqrt{2}$
 $(\sin^2 m - \cos^2 m)(\sin^2 m + \cos^2 m + \sin^2 m \cos^2 m) = -1$

شهادت سرداران اسلام: فلاحی، فکور، نامجو، کلاه و ز و جهان آرا (۱۳۶۰ هـ) - روز بزرگداشت فرماندهان شهید دفاع مقدس - روز آتش نشانی و ایمنی - روز بزرگداشت شمس

$\sin m - \cos m + \sin^2 m - \cos^2 m = -1$

$\sin(1 + \sin) - \cos(1 + \cos) = -1 \Rightarrow m = \frac{3\pi}{4} + 2k\pi$