

$$\cos m - \tan m = 1 \quad [0, \pi] \quad \text{1}$$

$$1 + \tan m = \sec m \rightarrow \sec m = 1 \rightarrow \cos m = 1 \rightarrow m = 0, \frac{2\pi}{2}$$

$\frac{2\pi}{2}$

$$\sin m + \cos m = -1 \quad [-\pi, \pi] \quad \text{2}$$

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

$$1 - \cos^2 m = 1 + \cos^2 m - 2\cos m \rightarrow -2\cos^2 m + 2\cos m = 0 \rightarrow -2\cos m(\cos m - 1) = 0$$

$$\cos m = 0 \rightarrow m = \frac{\pi}{2}, \frac{3\pi}{2}$$

$\frac{\pi}{2}, \frac{3\pi}{2}$

$$\sin m \cos m + \sin m = 1 \quad [0, \pi] \quad \text{3}$$

$$\sin m(\cos m + 1) = 1 \rightarrow \sin m = \frac{1}{1 + \cos m}$$

$$\sin m = 1 \rightarrow m = \frac{\pi}{2} \rightarrow \cos m = 0 \rightarrow \sin m = 1 \rightarrow m = \frac{\pi}{2}$$

$\frac{\pi}{2}$

$$\frac{1}{\sin(\frac{\pi + \pi m}{2})} + \frac{1}{\cos(\frac{\pi + \pi m}{2})} = 0 \quad [0, \pi] \quad \tan \alpha = ? \quad \text{4}$$

$$\frac{1}{\sin \alpha} + \frac{1}{\cos \alpha} = 0 \rightarrow \frac{\cos \alpha + \sin \alpha}{\sin \alpha \cos \alpha} = 0 \rightarrow \cos \alpha + \sin \alpha = 0 \rightarrow \sin \alpha = -\cos \alpha \rightarrow \tan \alpha = -1$$

$$\alpha = \frac{3\pi}{4}, \frac{7\pi}{4}$$

$\frac{3\pi}{4}, \frac{7\pi}{4}$

$$\ln(\cos m - \sin m) - \sqrt{5} \sin(m) = \sqrt{5} \quad \cos(m + \frac{\pi}{2}) = \frac{1}{\sqrt{2}} \quad m = ? \quad \text{5}$$

$$\cos m - \sin m = \frac{1}{\sqrt{2}} \rightarrow \frac{\cos m - \sin m}{\sqrt{2}} = \frac{1}{2} \rightarrow \cos m - \sin m = \frac{1}{\sqrt{2}}$$

$$\cos^2 m - \sin^2 m - 2\sin m \cos m = \frac{1}{2} \rightarrow \cos 2m - \sin 2m = \frac{1}{2}$$

$$\sqrt{2} \cos(2m + \frac{\pi}{4}) = \frac{1}{2} \rightarrow \cos(2m + \frac{\pi}{4}) = \frac{1}{2\sqrt{2}}$$

$m = \frac{\pi}{4}$

$$\sin(m + \frac{\pi}{2}) \cos(m - \frac{\pi}{2}) = 1 \quad [0, \pi] \quad \text{6}$$

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

$$\sin(m + \frac{\pi}{2}) = 1 \rightarrow m = \frac{\pi}{2}$$

$\frac{\pi}{2}$

$$\sin n + \sqrt{r} \cos n = \sqrt{r} \quad [-\pi, \pi]$$

$$\frac{1}{r} \sin n + \frac{\sqrt{r}}{r} \cos n = \frac{\sqrt{r}}{r} \rightarrow \sin(n + \frac{\pi}{2}) = \sin \frac{\pi}{5}$$

$$n + \frac{\pi}{2} = \frac{\pi}{5} \rightarrow n = 2k\pi - \frac{\pi}{10} \rightarrow n = -\frac{\pi}{10}, \frac{19\pi}{10}$$

$$-\frac{\pi}{10} + \frac{19\pi}{10} = \frac{18\pi}{10} = \frac{9\pi}{5}$$

$$\frac{18\pi}{5}$$

$$\frac{\sin m \sin(\frac{\pi}{5} - n)}{-\cos n} = 1 \quad [0, \pi]$$

$$-\frac{\sin m \cos n}{-\cos n} = 1 \rightarrow \sin m = -\frac{1}{r} \rightarrow m = 2k\pi - \frac{\pi}{5}, +\frac{\pi}{5}$$

$$n = k\pi - \frac{\pi}{10}, \frac{9\pi}{10}$$

$$\frac{11\pi}{10}, \frac{9\pi}{10}, \frac{19\pi}{10}, \frac{17\pi}{10}$$

$$\frac{9\pi}{10} = \delta\pi$$

$$0\pi$$

$$(1 + \cos(\epsilon\alpha))(1 + \cos(\epsilon\alpha))(1 + \cos(\lambda\alpha)) = \frac{1}{\lambda}$$

max value A

$$(r \cos \epsilon\alpha)(r \cos \epsilon\alpha)(r \cos \epsilon\alpha) = \frac{1}{\lambda} \rightarrow \cos \alpha \cos \epsilon\alpha \cos \epsilon\alpha = \pm \frac{1}{\lambda}$$

$$\frac{\sin \alpha \cos \alpha \cos \epsilon\alpha \cos \epsilon\alpha}{\frac{\sin \alpha}{r}} = \pm \frac{1}{\lambda} \sin \alpha \rightarrow \sin \lambda\alpha = \pm \sin \alpha$$

$$\lambda\alpha = 2k\pi + \alpha \rightarrow \alpha = \frac{2k\pi}{\lambda}$$

$$\lambda\alpha = 2k\pi - \alpha \Rightarrow \frac{2k\pi}{\lambda} \rightarrow \frac{\lambda\pi}{9}$$

$$\frac{\lambda\pi}{9}$$

$$\tan(m) \tan(n) = 1$$

$$[\pi, 2\pi] \quad \cot(m) \tan(n) = 1$$

$$\tan(n) = \cot(\pi) \rightarrow \cot m = \cot(\pi - n)$$

$$m = k\pi + \frac{\pi}{2} - n \rightarrow n = \frac{2k\pi + \pi}{2} \rightarrow$$

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

$$\frac{9\pi}{2}, \frac{11\pi}{2}, \frac{13\pi}{2}, \frac{15\pi}{2}$$

$$\frac{9\pi}{2} = 9\pi$$

$$9\pi$$

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