Related Questions with Solutions

Questions

Quetion: 01

General solution of 2 sin x + tan x = 0

A. $\pi n, \dfrac{2\pi(3k \pm 1)}{3} (n, k \in Z)$

B. $\pi n, \dfrac{2\pi(3k \pm 1)}{4} (n, k \in Z)$

C. $2\pi n, \dfrac{2\pi(3k \pm 1)}{3} (n, k \in Z)$

D. $\pi n, \dfrac{2\pi(2k \pm 1)}{3} (n, k \in Z)$

Solutions

Solution: 01

$2 \sin x + \frac{\sin x}{\cos x} = 0 \Rightarrow \sin x \left(\frac{2 \cos x + 1}{\cos x} \right) = 0$

$\Rightarrow \sin x = 0 \text{ or } \cos x = -\dfrac{1}{2} = \cos \left(\dfrac{2\pi}{3} \right)$

$\Rightarrow x = n\pi \text{ or } x = 2k\pi \pm \frac{2\pi}{3}; n, k \in Z$

Correct Options

Answer:01

Correct Options: A