



Air maths tuition

Interact, engage and perform

Trig. Equations : Factorising Types $f(x)=0$ (Example 2)

Solve $2\sin x \cos x + \cos^2 x = 0$ for $0^\circ \leq x \leq 360^\circ$

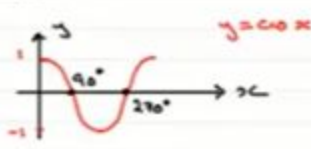
$\therefore \cos x (2\sin x + \cos x) = 0$

$\therefore \cos x = 0$ or $2\sin x + \cos x = 0$

When $\cos x = 0$

$\therefore x = \cos^{-1} 0$

$\therefore x = 90^\circ, 270^\circ$



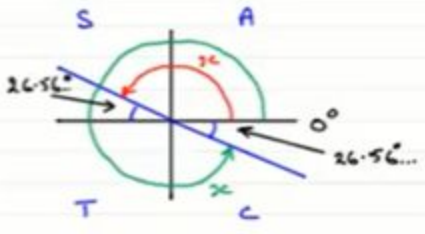
When $2\sin x + \cos x = 0$

$\therefore 2 \tan x + 1 = 0$

$\therefore \tan x = -\frac{1}{2}$

$\therefore x = \tan^{-1}\left(-\frac{1}{2}\right)$

$\therefore x = -26.56^\circ, 153.43^\circ, 333.43^\circ$



$\therefore x = 90^\circ, 153.4^\circ (1dp), 270^\circ, 333.4^\circ (1dp)$

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