

QUESTION Find the solutions of $\tan \theta = -1$ for $0 < \theta \leq 2\pi$.

ANSWER

$\tan \theta = -1$: The tangent is negative in the second and fourth quadrants therefore the solutions are $\theta = \pi - \frac{\pi}{4}$ and $\theta = 2\pi - \frac{\pi}{4}$ i.e. $\theta = \frac{3\pi}{4}$ and $\frac{7\pi}{4}$.