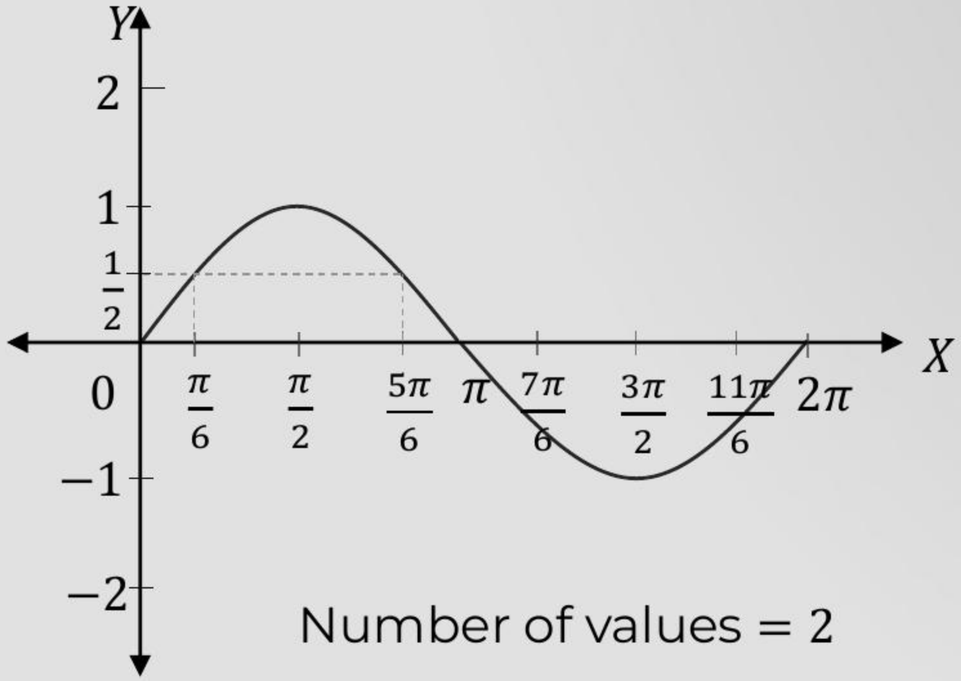
The number of values of $\theta \in (0,\pi)$ for which the system of linear equations $x + 3y + 7z = 0$; $\sin 3\theta\, x + \cos 2\theta\, y + 2z = 0$; $-x + 4y + 7z = 0$, has a non – trivial solution, is :

$\theta \in (0,\pi)$

$$\begin{vmatrix} 0 & 1 & 0 \\ -1 & 4 & -1 \\ \sin 3\theta & \cos 2\theta & 2 - 2\cos 2\theta \end{vmatrix} = 0 \qquad \Rightarrow \sin\theta = 0, \frac{1}{2}, -\frac{3}{2}$$



Number of values = 2

A. Four

B. Three

C. Two

D. One

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