Related Questions with Solutions

Questions

Quetion: 01

The values of k for which the system $(k+1)x + 8y = 0; kx + (k+3)y = 0$ has unique solution, are

A. 3, 1
B. –3, 1
C. 3, –1
D. –3, –1

Solutions

Solution: 01

The given system of equations is
$(k+1)x + 8y = 0, kx + (k+3)y = 0$
Coefficient matrix, $A = \begin{bmatrix} k+1 & 8 \\ k & k+3 \end{bmatrix}$

Now, $|A| = \begin{vmatrix} k+1 & 8 \\ k & k+3 \end{vmatrix} = (k+1)(k+3) - 8k$

$= k^2 + 4k + 3 - 8k = k^2 - 4k + 3 = (k-1)(k-3)$

For unique solution $|A| \neq 0$ i.e., k must not be equal to 1 or 3.

Correct Options

Answer:01
Correct Options: D