49. Let $a, \lambda, \mu \in \mathbb{R}$. Consider the system of linear equations

$$ax + 2y = \lambda$$
$$3x - 2y = \mu$$

Which of the following statement(s) is(are) correct?

(A) If $a = -3$, then the system has infinitely many solutions for all values of λ and μ

(B) If $a \neq -3$, then the system has a unique solution for all values of λ and μ

(C) If $\lambda + \mu = 0$, then the system has infinitely many solutions for $a = -3$

(D) If $\lambda + \mu \neq 0$, then the system has no solution for $a = -3$

Sol. **(B, C, D)**

System has unique solution for $\frac{a}{3} \neq \frac{2}{-2}$

system has infinitely many solutions for $\frac{a}{3} = \frac{2}{-2} = \frac{\lambda}{\mu}$

and no solution for $\frac{a}{3} = \frac{2}{-2} \neq \frac{\lambda}{\mu}$.