Pair of Linear Equations in Two varibles Ex 3.5 Q5

Answer :

GIVEN:

$kx+2y=5$

$3x+y=1$

To find: To determine to value of k for which the system has a unique solution.

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For unique solution

$\frac{a_1}{a_2}\neq\frac{b_1}{b_2}$

Here,

$\frac{k}{3}\neq\frac{2}{1}$

$k\neq 6$

Hence for $\boxed{k\neq 6}$ the system of equation has unique solution.

Pair of Linear Equations in Two varibles Ex 3.5 Q6

Answer :

GIVEN:

$4x+ky+8=0$

$2x+2y+2=0$

To find: To determine to value of k for which the system has a unique solution.

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For unique solution

$\frac{a_1}{a_2}\neq\frac{b_1}{b_2}$

Here,

$\frac{4}{2}\neq\frac{k}{2}$

$k\neq\frac{4\times 2}{2}$

$k\neq 4$

Hence for $\boxed{k\neq 4}$ the system of equation has unique solution

Pair of Linear Equations in Two varibles Ex 3.5 Q7

Answer :

GIVEN:

$4x-5y=\kappa$

$2x-3y=12$

To find: To determine to value of k for which the system has a unique solution.

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For unique solution

$\frac{a_1}{a_2}\neq\frac{b_1}{b_2}$

Here,

$\frac{4}{2}\neq\frac{-5}{-3}$

Hence already $\frac{a_1}{a_2}\neq\frac{b_1}{b_2}$ for the system of equation to have unique solution but the value of k should be a real number

Hence for $\boxed{k=\text{real number}}$ the system of equation has unique solution.

Pair of Linear Equations in Two varibles Ex 3.5 Q8

Answer :

GIVEN:

$x+2y=3$

$5x+ky+7=0$

To find: To determine to value of k for which the system has a unique solution.

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For unique solution

$\frac{a_1}{a_2}\neq\frac{b_1}{b_2}$

Here,

$\frac{1}{5}\neq\frac{2}{k}$

$k\neq5\times2$

$k\neq10$

Hence for $\boxed{k\neq10}$ the system of equation has unique solution

********** END **********