Pair of Linear Equations in Two varibles Ex 3.5 Q22

Answer :

GIVEN:

$3x-4y+7=0$

$kx+3y-5=0$

To find: To determine for what value of k the system of equation has no solution

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For no solution

$$\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$$

Here,

$$\frac{3}{k}=\frac{-4}{3}\neq\frac{-7}{5}$$

$$\frac{3}{k}=\frac{-4}{3}$$

$$k=\frac{-9}{4}$$

Hence for $\boxed{k=\frac{-9}{4}}$ the system of equation has no solution.

Pair of Linear Equations in Two varibles Ex 3.5 Q23

Answer :

GIVEN:

$2x-ky+3=0$

$3x+2y-1=0$

To find: To determine for what value of k the system of equation has no solution

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For no solution

$$\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$$

Here,

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

$$\frac{2}{3}=\frac{-k}{2}$$

$$k=\frac{-4}{3}$$

Hence for $\boxed{k=\frac{-4}{3}}$ the system of equation has no solution.

Pair of Linear Equations in Two varibles Ex 3.5 Q24

Answer :

GIVEN:

$2x+ky=11$

$5x-7y=11$

To find: To determine for what value of k the system of equation has no solution

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For no solution

$\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$

Here,

$\frac{2}{5}=\frac{k}{-7}\neq\frac{11}{5}$

$\frac{2}{5}=\frac{k}{-7}$

$k=-\frac{14}{5}$

Hence for $\boxed{k=\frac{-14}{5}}$ the system of equation has no solution.

Pair of Linear Equations in Two varibles Ex 3.5 Q25

Answer :

GIVEN:

$cx+3y=3$

$12x+cy=6$

To find: To determine for what value of c the system of equation has no solution

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For no solution

$\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$

Here,

$\frac{c}{12}=\frac{3}{c}\neq\frac{3}{6}$

$\frac{c}{12}=\frac{3}{c}$

$c^2=12\times3$

$c^2=36$

$c=\pm6$

Hence for $\boxed{c=\pm6}$ the system of equation has no solution.

Pair of Linear Equations in Two varibles Ex 3.5 Q26

Answer :

GIVEN:

$4x+6y=11$

$2x+ky=7$

To find: To determine for what value of k the system of equation will be inconsistent

We know that the system of equations

$a_1x+b_1y=c_1$

$a_2x+b_2y=c_2$

For the system of equation to be inconsistent

$$\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$$

Here,

$$\frac{4}{2}=\frac{6}{k}\neq\frac{11}{7}$$

$$\frac{4}{2}=\frac{6}{k}$$

$$k=\frac{12}{4}$$

$$k=3$$

Hence for $\boxed{k=3}$ the system of equation will be inconsistent.

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