

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

$$a_1 x + b_1 y = c_1$$

$$a_2x + b_2y = c_2$$

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

$$a_1 x + b_1 y = c_1$$

$$a_2x + b_2y = c_2$$

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

$$a_1 x + b_1 y = c_1$$

$$a_2x + b_2y = c_2$$

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

$$a_1 x + b_1 y = c_1$$

$$a_2x + b_2y = c_2$$

For no solution

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

Here,

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

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

$$c^2 = 12 \times 3$$

$$c^2 = 36$$

$$c = \pm 6$$

Hence for $c = \pm 6$ 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

$$a_1 x + b_1 y = c_1$$

$$a_2x + b_2y = c_2$$

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,

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

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

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

$$2 k$$

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

$$k = 3$$

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

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