

Ex 3.2 Questions 3, 4

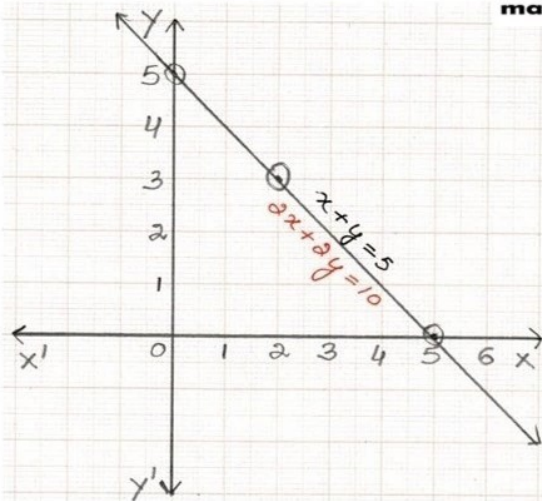
④ $5x - 3y = 11, -10x + 6y = -22$

$$\frac{a_1}{a_2} = \frac{5}{-10} \quad \left| \quad \frac{b_1}{b_2} = \frac{-3}{6} \quad \left| \quad \frac{c_1}{c_2} = \frac{11}{-22} \right. \right.$$

$$= -\frac{1}{2} \quad \left| \quad = -\frac{1}{2} \quad \left| \quad = -\frac{1}{2} \right. \right.$$

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

∴ Pair of equations is consistent



⑤ $\frac{4}{3}x + 2y = 8, 2x + 3y = 12$

$$\frac{a_1}{a_2} = \frac{4/3}{2} \quad \left| \quad \frac{b_1}{b_2} = \frac{2}{3} \quad \left| \quad \frac{c_1}{c_2} = \frac{8}{12} \right. \right.$$

$$= \frac{4 \times 1}{3 \times 2} \quad \left| \quad = \frac{2}{3} \quad \left| \quad = \frac{2}{3} \right. \right.$$

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

∴ Pair of equations is consistent

⑥ $x - y = 8, 3x - 3y = 16$

$$\frac{a_1}{a_2} = \frac{1}{3} \quad \left| \quad \frac{b_1}{b_2} = \frac{-1}{-3} \quad \left| \quad \frac{c_1}{c_2} = \frac{8}{16} \right. \right.$$

$$= \frac{1}{3} \quad \left| \quad = \frac{1}{3} \quad \left| \quad = \frac{1}{2} \right. \right.$$

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

∴ Pair of equations is inconsistent

⑦ $x + y = 5, 2x + 2y = 10$

$$\frac{a_1}{a_2} = \frac{1}{2} \quad \left| \quad \frac{b_1}{b_2} = \frac{1}{2} \quad \left| \quad \frac{c_1}{c_2} = \frac{5}{10} \right. \right.$$

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

∴ Pair of equations is consistent

⑧ $2x + y - 6 = 0, 4x - 2y - 4 = 0$

$$\frac{a_1}{a_2} = \frac{2}{4} \quad \left| \quad \frac{b_1}{b_2} = \frac{1}{-2} \quad \left| \quad \frac{c_1}{c_2} = \frac{-6}{-4} \right. \right.$$

$$= \frac{1}{2} \quad \left| \quad = -\frac{1}{2} \quad \left| \quad = \frac{3}{2} \right. \right.$$

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

∴ Pair of equations is consistent

$$x = 5 - y \quad x = \frac{10 - 2y}{2}$$

X	5	0	2	X	5	0	2
Y	0	5	3	Y	0	5	3

$$y = 6 - 2x \quad y = 2x - 2$$

X	0	2	3	X	0	1	2
Y	6	2	0	Y	-2	0	2

