Class – 9th | **Topic – Graphical solution**

1. Use the method of substitution to solve each other of the pair of simultaneous equations:

(a) $x + y = 15$	$x - y = 3$
(b) $x + y = 0$	$x - y = 2$
(c) $2x - y = 3$	$4x + y = 3$
(d) $2x - 9y = 9$	$5x + 2y = 27$
(e) $x + 4y = -4$	$3y - 5x = -1$
(f) $2x - 3y = 2$	$x + 2y = 8$
(g) $x + y = 7$	$2x - 3y = 9$
(h) $11y + 15x = -23$	$7y - 2x = 20$
(i) $5x - 6y = 2$	$6x - 5y = 9$

2. Solve each other pair of equation given below using elimination method:

(a) $x + 2y = -4$	$3x - 5y = -1$
(b) $4x + 9y = 5$	$-5x + 3y = 8$
(c) $9x - 6y = 12$	$4x + 6y = 14$
(d) $2y - \left(\frac{3}{x}\right) = 12$	$5y + \left(\frac{7}{x}\right) = 1$
(e) $\left(\frac{3}{x}\right) + \left(\frac{2}{y}\right) = \left(\frac{9}{xy}\right)$	$\left(\frac{9}{x}\right) + \left(\frac{4}{y}\right) = \left(\frac{21}{xy}\right)$
(f) $\left(\frac{4}{y}\right) + \left(\frac{3}{x}\right) = 8$	$\left(\frac{6}{y}\right) + \left(\frac{5}{x}\right) = 13$
(g) $5x + \left(\frac{4}{y}\right) = 7$	$4x + \left(\frac{3}{y}\right) = 5$
(h) $x + y = 3$	$-3x + 2y = 1$
(i) $-3x + 2y = 5$	$4x + 5y = 2$

Answer

1. (a) $x = 9, y = 6$

(b) $x = 1, y = -1$

(c) $x = 1, y = -1$

(d) $x = \frac{261}{49}, y = \frac{9}{49}$

(e) $x = -\frac{8}{23}, y = -\frac{21}{23}$

(f) $x = 4, y = 2$

(g) $x = 6, y = 1$

(h) $x = -3, y = 2$

(i) $x = 4, y = 3$

2. (a) $x = -2, y = -1$

(b) $x = -1, y = 1$

(c) $x = 2, y = 1$

(d) $x = -\frac{1}{2}, y = 3$

(e) $x = 3, y = 1$

(f) $x = \frac{1}{2}, y = 2$

(g) $x = -1, y = \frac{1}{3}$

(h) $x = 1, y = 2$

(i) $x = -\frac{21}{23}, y = \frac{26}{23}$