Solve :

Q. $\frac{x+2}{6} - \left(\frac{11-x}{3} - \frac{1}{4}\right) = \frac{3x-4}{12}$

Sol

$$\frac{x+2}{6} - \left(\frac{11-x}{3} - \frac{1}{4}\right) = \frac{3x-4}{12}$$

$$\therefore \quad \cancel{12}^{2}\left(\frac{x+2}{\cancel{6}_{1}}\right) - 12\left(\frac{11-x}{3} - \frac{1}{4}\right) = \cancel{12}\left(\frac{3x-4}{\cancel{12}}\right)$$

$$\therefore \quad 2(x+2) - \cancel{12}^{4}\left(\frac{11-x}{\cancel{3}_{1}}\right) + \cancel{12}^{3} \times \frac{1}{\cancel{4}_{1}} = (3x-4)$$

$$\therefore \quad 2(x+2) - 4(11-x) + 3 = 3x-4$$

$$\therefore \quad 2x + 4 - 44 + 4x + 3 = 3x - 4$$

$$\therefore \quad 6x - 37 = 3x - 4$$

$$\therefore \quad 6x - 3x = -4 + 37$$

$$\therefore \quad 3x = 33$$

$$\therefore \quad x = \frac{33}{3}$$

$$\therefore \quad \boxed{x = 11}$$

$(a+b)^2 = a^2 + 2ab + b^2$
$(a-b)^2 = a^2 - 2ab + b^2$ } Identity

$(2x+5)^2$

$(a+b)^2 \Rightarrow a^2 + 2ab + b^2$

$a = 2x$, $b = 5$

$= (2x)^2 + 2(2x)(5) + 5^2$

$= 4x^2 + 20x + 25$

$(2x+5)^2 \Rightarrow (2x+5)(2x+5)$

$2x(2x+5) + 5(2x+5)$

$4x^2 + 10x + 10x + 25$

$4x^2 + 20x + 25 = 15$

Solve :

Q. $(2x+3)^2 + (2x-3)^2 = (8x+6)(x-1) + 22$

Sol

$$(2x+3)^2 + (2x-3)^2 = (8x+6)(x-1) + 22$$

$$\therefore \quad (2x)^2 + 2(2x)(3) + 3^2 + (2x)^2 - 2(2x)(3) + 3^2 = 8x(x-1) + 6(x-1) + 22$$

$$\therefore \quad 4x^2 + \cancel{12x} + 9 + 4x^2 - \cancel{12x} + 9 = 8x^2 - 8x + 6x - 6 + 22$$

$$\therefore \quad 8x^2 + 18 = 8x^2 - 2x + 16$$

$$\therefore \quad \cancel{8x^2} - \cancel{8x^2} + 2x = 16 - 18$$

$$\therefore \quad 2x = -2$$

$$\therefore \quad x = \frac{-\cancel{2}}{\cancel{2}}$$

$$\therefore \quad \boxed{x = -1}$$

Q. 1 Solve the following linear equations :

1. $\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$

Sol $\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$

$\therefore \frac{x}{2} - \frac{x}{3} = \frac{1}{4} + \frac{1}{5}$

$\therefore \frac{x \times 3}{2 \times 3} - \frac{x \times 2}{3 \times 2} = \frac{1 \times 5}{4 \times 5} + \frac{1 \times 4}{5 \times 4}$

$\therefore \frac{3x}{6} - \frac{2x}{6} = \frac{5}{20} + \frac{4}{20}$

$\therefore \frac{1x}{6} = \frac{9}{20}$

$\therefore x = \frac{9}{20} \times 6^{3}$

$\therefore x = \frac{27}{10}$

$\therefore$ The solution of the equation is $\frac{27}{10}$

Q. 1 Solve the following linear equations :

2. $\frac{n}{2} - \frac{3n}{4} + \frac{5n}{6} = 21$

Sol $\frac{n}{2} - \frac{3n}{4} + \frac{5n}{6} = 21$

$\therefore \frac{n \times 6}{2 \times 6} - \frac{3n \times 3}{4 \times 3} - \frac{5n \times 2}{6 \times 2} = 21$

$\therefore \frac{6n}{12} - \frac{9n}{12} + \frac{10n}{12} = 21$

$\therefore \frac{-3n}{12} + \frac{10n}{12} = 21$

$\therefore \frac{7n}{12} = 21$

$\therefore 7n = 21 \times 12$

$\therefore n = \frac{21^{3} \times 12}{7_{1}}$

$\therefore n = 3 \times 12$

$\therefore n = 36$

Q. 1 Solve the following linear equations :

3. $x + 7 - \frac{8x}{3} = \frac{17}{6} - \frac{5x}{2}$

Sol $x + 7 - \frac{8x}{3} = \frac{17}{6} - \frac{5x}{2}$

$\therefore x - \frac{8x}{3} + \frac{5x}{2} = \frac{17}{6} - 7$

$\therefore \frac{x}{1} - \frac{8x}{3} + \frac{5x}{2} = \frac{17}{6} - \frac{7}{1}$

$\therefore \frac{x \times 6}{1 \times 6} - \frac{8x \times 2}{3 \times 2} + \frac{5x \times 3}{2 \times 3} = \frac{17}{6} - \frac{7 \times 6}{1 \times 6}$

$\therefore \frac{6x}{6} - \frac{16x}{6} + \frac{15x}{6} = \frac{17}{6} - \frac{42}{6}$

$\therefore \frac{5x}{6} = \frac{-25}{6}$

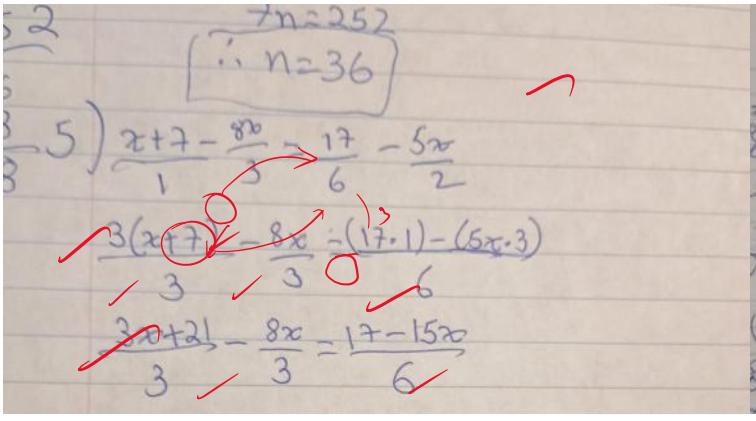
$\therefore 5x = \frac{-25}{6_{1}} \times 6^{1}$

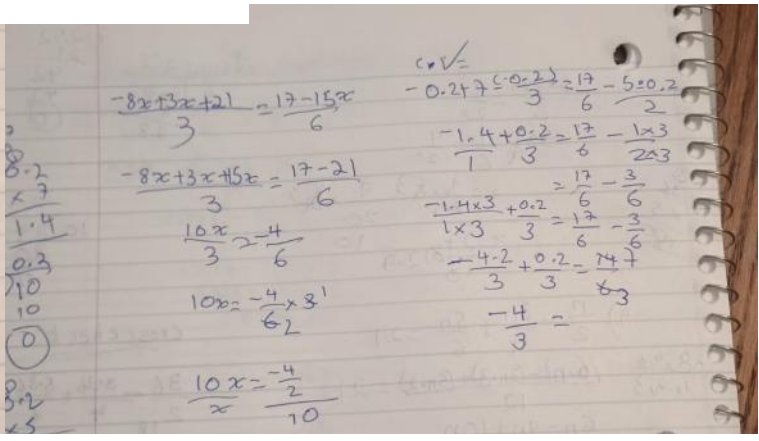
$\therefore 5x = -25$

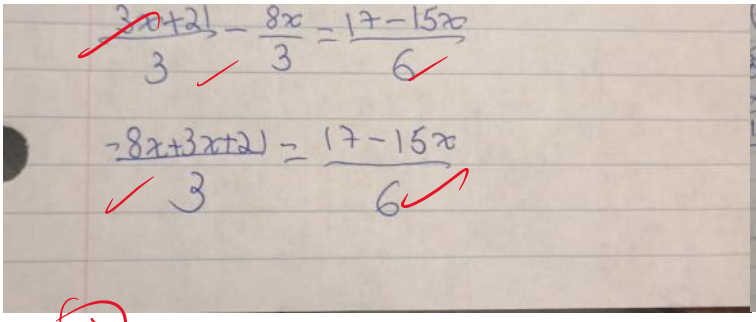
$\therefore x = \frac{-25^{-5}}{5_{1}}$

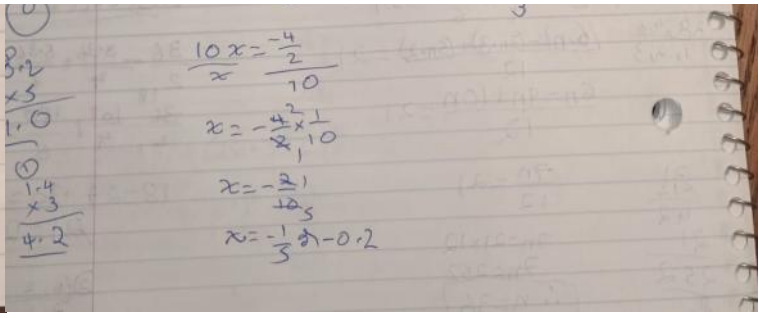
$\therefore x = -5$

$\therefore$ The solution of the equation is -5.









21x (2/3)

Q. 1 Solve the following linear equations :

4. $\frac{x-5}{3} = \frac{x-3}{5}$

Sol

$$\frac{x-5}{3} = \frac{x-3}{5}$$

$\therefore 5(x-5) = 3(x-3)$

$\therefore 5x - 25 = 3x - 9$

$\therefore 5x = 3x - 9 + 25$

$\therefore 5x = 3x + 16$

$\therefore 5x - 3x = 16$

$\therefore 2x = 16$

$\therefore x = \frac{16^{8}}{2_{1}}$

$\therefore x = 8$

$\therefore$ The solution of the equation is 8

HW 19 to 26

Q. 1 Solve the following linear equations :

5. $\frac{3t-2}{4} - \frac{2t+3}{3} = \frac{2}{3} - t$

Q. 1 Solve the following linear equations :

6. $m - \frac{m-1}{2} = 1 - \frac{m-2}{3}$