Cee
13/08/21

Ch-22

Simple linear Equations

$2x+3 = x+4$ - Equation

Cee
16/08/21

Ex 22(A)

20 b) $y - 3\frac{1}{2} = 6$

$\Rightarrow y - \frac{7}{2} = 6$

$\Rightarrow y = \frac{6}{1} + \frac{7}{2} = \frac{12+7}{2} = \frac{19}{2} = 9\frac{1}{2}$ Ans

vii) $P - 5.4 = 2.7$

$\Rightarrow P = 2.7 + 5.4 = 8.1$ Ans

Inverse method

$P - 5.4 + 5.4 = 2.7 + 5.4$

$P = 8.1$ Ans

c) i) $\frac{x}{2} \times \frac{5}{1}$

$\Rightarrow x \times 1 = 5 \times 2$

$= x = 10$

$\frac{x}{3} \times \frac{3}{1}$

$\Rightarrow x \times 1 = 3 \times 3$

$\Rightarrow x = 9$

6) iii) $5 = m + 3\frac{4}{7}$

$\Rightarrow 5 = m + \frac{25}{7}$ $\Rightarrow m = \frac{25}{7} - 5$

$\frac{5}{1} - \frac{25}{7} = m$

$\Rightarrow \frac{35-25}{7} = m$ $\frac{10}{7} = m$ $m = \frac{10}{7}$

$x \times -1 = 3$

$x = \frac{3}{-1} = -3$

$-x = 3$

$x = -3$

$x = 2$ $X = 2$

$+2 = +x$ $-2 = -x$

$x = 2$ $2 = x$

$2 = x$

3) iv) $2.5m = 7.5$

$m = \frac{7.5}{2.5} = \frac{75}{10}$ $= \frac{\cancel{75}^{3}}{\cancel{10}} \times \frac{10}{25} = 3$ Ans

$\frac{25}{10}$

5) iii) $-3.5g = 14$

$g = \frac{14}{-3.5} = \frac{-14}{3.5}$

$= -14 \div 3.5$

$= -14 \div \frac{35}{10} = -\frac{\cancel{14}^{2}}{\cancel{35}} \times \frac{\cancel{10}^{2}}{5}$

$= -4$ Ans

$\frac{1}{-2} = 1$

$-5z = 4$

$z = \frac{4}{-5} = \frac{-4}{5}$ Ans

$3y + 2 = 9 \Rightarrow (3y = 9 - 2 = 7$

$y = 7/3$

$3y + 2 - 2 = 9 - 2$

$3y = 7$

$\Rightarrow \frac{3y}{3} = \frac{7}{3}$

$y = \frac{7}{3}$

$3x + 8 = 14$

$3x + 8 - 8 = 14 + 8$

$\Rightarrow 3x = 6$

$\Rightarrow \frac{3x}{3}$

Ex 22(A)

i) $x+2=6$

$\Rightarrow x=6-2$

$\Rightarrow x=4$

ii) $x+6=2$

$\Rightarrow x=2-6$

$\Rightarrow x=-4$

iii) $y+8=5$

$\Rightarrow y=5-8$

$\Rightarrow y=-3$

iv) $x+4=-3$

$\Rightarrow x=-3-4$

$\Rightarrow x=-7$

v) $y+2=-8$

$\Rightarrow y=-8-2$

$\Rightarrow y=-10$

vi) $b+2.4=4.2$

$\Rightarrow b=4.2-2.4$

$\Rightarrow b=1.7$

vii) $p+4.6=8.5$

$\Rightarrow p=8.5-4.6$

$\Rightarrow p=3.9$

viii) $y+3.2=-6.5$

$\Rightarrow y=-6.5-3.2$

$\Rightarrow y=-9.7$

ix) $a+8.9=-12.6$

$\Rightarrow a=-12.6-8.9$

$\Rightarrow a=-21.5$

x) $x+2\frac{1}{3}=5$

$\Rightarrow x+\frac{7}{3}=5 \Rightarrow x=5-\frac{7}{3}$

$\Rightarrow x=\frac{15-7}{3} \Rightarrow x=\frac{8}{3}$

$\Rightarrow x=2\frac{2}{3}$

xi) $z+2=4\frac{1}{5}$

$\Rightarrow z+2=\frac{21}{5} \Rightarrow z=\frac{21}{5}-2$

$=\frac{21-10}{5} \Rightarrow z=\frac{11}{5}$

$\Rightarrow z=2\frac{1}{5}$

xii) $m+3\frac{1}{2}=4\frac{1}{4}$

$\Rightarrow m+\frac{7}{2}=\frac{17}{4} \Rightarrow m=\frac{17}{4}-\frac{7}{2}$

$\Rightarrow m=\frac{17-14}{4} \Rightarrow m=\frac{3}{4}$

xiii) $x+2=1\frac{1}{4} \Rightarrow x+2=\frac{5}{4}$

$\Rightarrow x=\frac{5}{4}-2 \Rightarrow x=\frac{5-8}{4} \Rightarrow x=-\frac{3}{4}$

xiv) $y + 5\frac{1}{3} = 4$

$\Rightarrow y + \frac{16}{3} = 4 \quad \Rightarrow y = 4 - \frac{16}{3}$

$\Rightarrow y = \frac{12 - 16}{3} \quad \Rightarrow y = -\frac{4}{3}$

$\Rightarrow y = -1\frac{1}{3}$

xv) $a + 3\frac{1}{5} = 1\frac{1}{2}$

$\Rightarrow a + \frac{16}{5} = \frac{3}{2} \quad \Rightarrow a = \frac{3}{2} - \frac{16}{5}$

$\Rightarrow a = \frac{15 - 32}{10} \quad \Rightarrow a = -\frac{17}{10}$

$\Rightarrow a = -1\frac{7}{10}$

3) i) $x - 3 = 2$

$\Rightarrow x = 2 + 3$

$\Rightarrow x = 5$

ii) $m - 2 = -5$

$\Rightarrow m = -5 + 2$

$\Rightarrow m = -3$

iii) $b - 5 = 7$

$\Rightarrow b = 7 + 5$

$\Rightarrow b = 12$

iv) $a - 2.5 = -4$

$\Rightarrow a = -4 + 2.5$

$\Rightarrow a = -1.5$

vi) $z - 2\frac{1}{3} = -6$

$\Rightarrow z - \frac{7}{3} = -6 \Rightarrow z = -6 + \frac{7}{3}$

$\Rightarrow z = \frac{-18 + 7}{3} \Rightarrow z = \frac{-11}{3}$

$\Rightarrow z = -3\frac{2}{3}$

viii) $x - 15 = -4.9$

$\Rightarrow x = -4.9 + 1.5$

$\Rightarrow x = -3.4$

ix) $n - 4 = -4\frac{1}{5}$

$\Rightarrow n - 4 = -\frac{21}{5} \Rightarrow n = -\frac{21}{5} + 4$

$\Rightarrow n = \frac{-21 + 20}{5} \Rightarrow n = -\frac{1}{5}$

3 i) $3x = 12$

$\Rightarrow x = \frac{12}{3}$

$\Rightarrow x = 4$

ii) $2y = 9$

$\Rightarrow y = \frac{9}{2} \Rightarrow y = 4\frac{1}{2}$

iii) $5z = 8.5$

$\Rightarrow z = \frac{8.5}{5} \Rightarrow z = 1.7$

v) $3.2p = 16$

$\Rightarrow p = \frac{16}{3.2} \Rightarrow p = \frac{16 \times 10}{32} \Rightarrow p = 5$

vi) $2a = 4.6$

$\Rightarrow a = \frac{4.6}{2} \Rightarrow a = 2.3$

4) i) $\frac{y}{3} = -2 \Rightarrow y = -2 \times 3 \Rightarrow y = -6$

ii) $\frac{a}{5} = -15 \Rightarrow a = -15 \times 5 \Rightarrow -75$

iv) $\frac{z}{4} = 3\frac{1}{4}$

$\Rightarrow \frac{z}{4} = \frac{13}{4} \Rightarrow z = \frac{13}{4} \times 4$

$\Rightarrow z = 13$

v) $\frac{n}{7} = -2.8$

$\Rightarrow n = -2.8 \times 7$

$\Rightarrow n = -19.6$

vi) $\frac{m}{6} = 2\frac{1}{2} \Rightarrow \frac{m}{6} = \frac{5}{2} \Rightarrow m = \frac{5}{2} \times 6$

$\Rightarrow m = 15$

5) i) $-2x = 8$

$\Rightarrow x = \frac{8}{-2} \Rightarrow x = -4$

iii) $-5z = 4$

$\Rightarrow z = -\frac{4}{5} \Rightarrow z = -0.8$

iv) $-5 = a + 3$

$\Rightarrow a + 3 = -5$

$\Rightarrow a = -5 - 3$

$\Rightarrow a = -8$

v) $2 = p + 5$

$\Rightarrow p + 5 = 2 \Rightarrow p = 2 - 5$

$\Rightarrow p = -3$

vi) $4.5 = m - 2.7$

$\Rightarrow m - 2.7 = 4.5$

$\Rightarrow m = 4.5 + 2.7$

$\Rightarrow m = 7.2$

vii) $3\frac{2}{5} = x - 2\frac{1}{3}$

$\Rightarrow \frac{17}{5} = x - \frac{7}{3} \Rightarrow x - \frac{7}{3} = \frac{17}{5}$

$\Rightarrow x = \frac{17}{3} + \frac{7}{3} \Rightarrow x = \frac{51 + 35}{15}$

$\Rightarrow x = \frac{86}{15} \Rightarrow x = 5\frac{11}{15}$

ix) $-2\frac{1}{5} = y - 4$

$\Rightarrow -\frac{11}{5} = y - 4 \Rightarrow y - 4 = -\frac{11}{5}$

$\Rightarrow y = -\frac{11}{5} + 4 \Rightarrow y = \frac{-11 + 20}{5}$

$\Rightarrow y = \frac{9}{5} \Rightarrow y = 1\frac{4}{5}$