Ex- 22(A)

1. Solve:

(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) $b + 2.5 = 4.2$

$\Rightarrow b = 4.2 - 2.5$

$\Rightarrow b = 1.7$

$$\begin{array}{r} {}^{3}\cancel{4}.{}^{12}\cancel{2} \\ -\ 2.5 \\ \hline 1.7 \end{array}$$

(vii) $p + 4.6 = 8.5$

$\Rightarrow p = 8.5 - 4.6$

$\Rightarrow p = 3.9$

$$\begin{array}{r} {}^{7}\cancel{8}.{}^{15}\cancel{5} \\ -\ 4.6 \\ \hline 3.9 \end{array}$$

(viii) $y + 3.2 = -6.5$

$\Rightarrow$ $y = -6.5 - 3.2$

$= y = -9.7$

$$\begin{array}{r} -6.5 \\ -3.2 \\ \hline -9.7 \end{array}$$

(ix) $a + 8.9 = -12.6$

$\Rightarrow a = -12.6 - 8.9$

$\Rightarrow a = -3.7 - 21.5$

$$\begin{array}{r} {}^{0}\cancel{1}{}^{1}\cancel{2}.{}^{1}\cancel{6} \\ -8.9 \\ \hline -3.7 \end{array} \qquad \begin{array}{r} \textcircled{0}\textcircled{1} \\ -12.6 \\ -8.9 \\ \hline -21.5 \end{array}$$

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

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

$= x = 5 - \frac{7}{3} = \frac{5}{1} - \frac{7}{3}$

$= \frac{15-7}{3} = \frac{8}{3} = 2\frac{2}{3}$

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

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

$\Rightarrow z = \frac{21}{5} - \frac{2}{1}$

$\Rightarrow \frac{21 - 10}{5} = \frac{11}{5} = 2\frac{1}{5}$

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

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

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

$\Rightarrow$

(xiii)

$=$

$\Rightarrow$

$\Rightarrow$

$\Rightarrow$

(xiv)

$=$

$\Rightarrow$

$\Rightarrow$

$\Rightarrow$

(xv)

$=$

$\Rightarrow$

$\Rightarrow$

$\Rightarrow \frac{17-14}{4} = \frac{B}{4}$

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

$= x + 2 = \frac{5}{4}$

$\Rightarrow x = \frac{5}{4} - \frac{2}{1}$

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

$\Rightarrow x = -\frac{3}{4}$

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

$= y + \frac{16}{3} = 4$

$\Rightarrow y = \frac{4}{1} - \frac{16}{3}$

$\Rightarrow \frac{12-16}{3} = \frac{-4}{3} = -1\frac{1}{3}$

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

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

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

$\Rightarrow a = \frac{3}{2} - \frac{16}{5}$ (LCM = 10)

$\Rightarrow \frac{15-32}{10} = \frac{-17}{10} = -1\frac{7}{10}$

2. Solve:

(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) $a - 2.5 = -4$

$\Rightarrow a = -4 + 2.5$

$\Rightarrow a = -1.5$

(v) $y - 3\frac{1}{2} = 6$

$\Rightarrow y = 6 + 3\frac{1}{2}$

$\Rightarrow y = \frac{6}{1} + \frac{7}{2}$

$= \frac{12+7}{2} = \frac{19}{2} = 9\frac{1}{2}$

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

$\Rightarrow z = -6 + 2\frac{1}{3}$

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

$\Rightarrow z = \frac{-6}{1} + \frac{7}{3}$

$\Rightarrow z = \frac{18}{3} - \frac{7}{3} = \frac{11}{3} = 3\frac{2}{3}$

(vii) $p - 5.4 = 2.7$

$= p = 2.7 + 5.4$

$= p = 8.1$

(viii) $x - 1.5 = -4.9$

$= x = -4.9 + 1.5$

$= x = -3.4$

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

$= n = -4\frac{1}{5} + 4$

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

$= \frac{-21}{5} - \frac{4}{1}$

$= \frac{-105}{5} - 20 = \frac{-41}{5} = -8\frac{1}{5}$

(2) Solve:

(i) $3x = 12$

$= x = \frac{12}{3} = 4$

$= x = 4$

(ii) $2y = 9$

$= y = \frac{9}{2} = 4.5$

(iii) $5z = 8.5$

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

$= z = 1.7$

(iv) $2.5m = 7.5$

$\Rightarrow m = \frac{7.5}{2.5}$

$\Rightarrow m = 3.0$ or 3

(v) $3 \cdot 2p = 16$

$\Rightarrow p = \frac{16}{3 \cdot 2}$

$\Rightarrow p = 5$

(vi) $2a = 4 \cdot 6$

$\Rightarrow a = \frac{2}{4 \cdot 6}$ or $\frac{4 \cdot 6}{2}$

$\Rightarrow a = 2 \cdot 3$

$$\begin{array}{r} 2 \cdot 3 \\ 2 \overline{)4 \cdot 6} \\ -4 \downarrow \\ \hline 06 \\ -6 \\ \hline 0 \end{array}$$

~~(vii)~~

4. Solve:

(i) $\frac{x}{2} = 5$

$= x = 5 \times 2$

$= x = 10$

(ii) $\frac{y}{3} = 2$

$= y = 3 \times 2$

$= y = 6$

(iii) $\frac{a}{5} = -15$

$= a = -15 \times 5$

$= a = -75$

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

$= z = 3\frac{1}{4} \times 4$

$= z = \frac{13}{4} \times \frac{4}{1} = \frac{52}{4} = 13$

(v) $\frac{m}{6} = 2\frac{1}{2}$

$= m = \left(2\frac{1}{2} \times 6\right) \div \frac{5}{2} \times \frac{6}{1}$

$= \frac{30}{2} = 15$

(vi) $\frac{n}{7} = -2.8$

$= n = -2.8 \times 7$

$= n = -19.6$

-2.8
$\times \quad 7$
-19.6

(5) Solve;

(i) $-2x = 8$

$\Rightarrow x = 8 + (-2)\ 8-2$

$\Rightarrow x = -8-6$ ~~$+4+8$~~

$\Rightarrow x =$ ~~-14~~

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

(ii) $-3.5y = 14$

$\Rightarrow y = \frac{14}{3.5}$

$14\overline{)3.5}$

$\Rightarrow y = \frac{-14 \times 10}{35} = -2 \times 2 = -4$

(iii) $-5z = 4$

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

(iv) $-5 = a + 3$

$\Rightarrow a = -5-3 = -8$

(vi) $2 = p + 5$

$p = 2 - 5 = -3$

(vii) $4.5 = m - 2.7$

$\Rightarrow m = 4.5 + 2.7 = 7.2$

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

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

$x = \frac{17}{5} + \frac{7}{3}$

$x = \frac{51+35}{15} = \frac{86}{15} = 5\frac{11}{15}$

(viii) $5 = m + 3\frac{4}{7}$

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

$m = 5 - \frac{25}{7} = \frac{35-25}{7} = \frac{10}{7} = 1\frac{3}{7}$

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

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

$\Rightarrow y = \frac{-11}{5} + 4 = \frac{-11+20}{5} = \frac{9}{5} = 1\frac{4}{5}$