

Ex-20(B)

$$1. (i) (23-15)+4$$

$$= 8+4$$

$$= 12$$

$$(ii) 5x + (3x + 7x)$$

$$= 5x + 10x$$

$$= 15x$$

$$(iii) 6m - (4m - m)$$

$$= 6m - 4m + m = 3m$$

$$= 2m + m$$

$$= 3m$$

$$(iv) (9a - 3a) + 4a$$

$$= 6a + 4a$$

$$= 10a$$

$$(v) 35b - (16b + 9b)$$

$$= 35b - 25b$$

$$= 10b$$

$$(vi) (3y + 8y) - 5y$$

$$= 11y - 5y$$

$$= 6y$$

$$\begin{aligned} \text{(i)} \quad & 12x - (5x + 2x) \\ & = 12x - 7x \\ & = 5x \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & 10m + (4n - 3n) - 5n \\ & = 10m + n - 5n \\ & = 10m - 4n \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & (15b - 6b) - (8b + 4b) \\ & = 9b - 12b \\ & = -3b \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & -(-4a - 8a) \\ & = +4a + 8a \\ & = 12a \end{aligned}$$

$$\begin{aligned} \text{(v)} \quad & x - (x - y) - (-x + y) \\ & = x - x + y + x - y \\ & = x \end{aligned}$$

$$\begin{aligned} \text{(vi)} \quad & p + (-q - r - s) - (p - q - r) \\ & = p - q - r - s - p + q + r \\ & = -s \end{aligned}$$

$$\begin{aligned} \text{(vii)} \quad & (a + b) - (c + d) - (e - f) \\ & = a + b - c - d - e + f \end{aligned}$$

$$\begin{aligned} \text{(viii)} \quad & 3x + (8x - 5x) - (7x - x) \\ & = 3x + 8x - 5x - 7x + x \\ & = 11x - 5x - 7x + x \\ & = 2x - 2x \end{aligned}$$

$$\begin{aligned} \text{(ix)} \quad & a - (a - b - c) \\ & = a - a + b + c \\ & = b + c \end{aligned}$$

$$\begin{aligned} \text{(x)} \quad & 6a^2 + (2a^2 - a^2) - (a^2 - b^2) \\ & = 6a^2 + 2a^2 - a^2 - a^2 + b^2 \\ & = 8a^2 - 2a^2 + b^2 \\ & = 6a^2 + b^2 \end{aligned}$$

$$\begin{aligned} \text{(xi)} \quad & 2m - (3m + 2n - 6n) \\ & = 2m - 3m - 2n + 6n \\ & = -1m + 4n \\ & = 4n - m \end{aligned}$$

$$\begin{aligned} \text{(xii)} \quad & -m - n - (-m) - m \\ & = -m - n + m - m \\ & = -n - m \end{aligned}$$

$$\begin{aligned} \text{(xiii)} \quad & x + y - (x + y - x) \\ & = x + y - (x + y - x) \\ & = x + y - x - y + x \\ & = x \end{aligned}$$

$$\begin{aligned} \text{(xiv)} \quad & 25y - (5x - 10y + 6x - 3y) \\ & = 25y - 5x + 10y - 6x + 3y \\ & = 38y - 11x \end{aligned}$$

$$\begin{aligned} \text{(xv)} \quad & 3x + (2x - x + 2) \\ & = 3x + (2x - x + 2) \\ & = 3x + (2x - x + 2) \\ & = 6x + 2 \end{aligned}$$

$$\begin{aligned} \text{(xvi)} \quad & a - (2a - a + 3a) \\ & = a - (2a - a) \\ & = a - 2a + a \\ & = 2a - 2a \end{aligned}$$

$$\begin{aligned} \text{(xvii)} \quad & 5x^2 - (3x - x^2 - 4) \\ & = 5x^2 - (3x - x^2 - 4) \\ & = 5x^2 - 3x + x^2 + 4 \\ & = 6x^2 - 3x + 4 \end{aligned}$$

$$\begin{aligned} \text{(xviii)} \quad & 3x + (2x - x + 2) \\ & = 3x + (2x - x + 2) \\ & = 3x + (x + 2) \\ & = 3x + x + 2 = 4x + 2 \end{aligned}$$

$$\begin{aligned}
 \text{(xvii)} \quad & 5x^2 - (3x - x^2 - 4) \\
 & = 5x^2 - (3x - x^2 + 4) \\
 & = 5x^2 - 3x + x^2 - 4 \\
 & = 5x^2 + x^2 - 3x - 4 \\
 & = 6x^2 - 3x - 4
 \end{aligned}$$

$$\begin{aligned}
 \text{(xvii)} \quad & -(y-x) - (x+y - 2x+y) \\
 & = -y + x - x - y - 2x + 2y \\
 & = -3y - 2x
 \end{aligned}$$

$$\begin{aligned}
 \text{(xviii)} \quad & -(y-x) - (x+y - 2x+y) \\
 & = -y + x - (x+y - 2x + y) \\
 & = -y + x - (-x) \\
 & = -y + x + x = -y + 2x
 \end{aligned}$$

6.8.21

Ex-20(B)

$$\begin{aligned}
 3.(i) \quad & x - (y-z) + 2x + (y-z) + y - (z+x) \\
 & = x - y + z + 2x + y - z - z + y - z - x \\
 & = x + y - z
 \end{aligned}$$

$$\begin{aligned}
 (ii) \quad & x - [y + \{x - (y+x)\}] \\
 & = x - y \\
 & = x - [y + \{x - y + x\}] \\
 & = x - [y + \{2x - y\}] \\
 & = x - [y + 2x - y] \\
 & = x - [2x] \\
 & = x - 2x + x \\
 & = x
 \end{aligned}$$

$$\begin{aligned}
 \text{(iii)} \quad & 4x + 3(2x - 5y) \\
 & = 4x + 3 \times 2x - 5y \\
 & = 6x + 3 - 5y
 \end{aligned}$$

$$\begin{aligned}
 \text{(iii)} \quad & 4x + 3(2x - 5y) \\
 & = 4x + 3 \times 2x - 3 \times 5y \\
 & = 4x + 6x - 15y \\
 & = 10x - 15y
 \end{aligned}$$

$$\begin{aligned}
 \text{(iv)} \quad & 2(3a - b) - 5(a - 3b) \\
 & = 2 \times 3a - 2 \times b - 5 \times a - 5 \times (-3b) \\
 & = 6a - 2b - 5a + 15b \\
 & = a + 13b
 \end{aligned}$$

$$\begin{aligned}
 \text{(iv)} \quad & p+2(q-r+p) \\
 &= p+2(q-r+p) \\
 &= p+2q-r+p \\
 &= 2p+2q-r
 \end{aligned}$$

$$\begin{aligned}
 \text{(v)} \quad & p+2(q-r+p) \\
 &= p+2(q-r-p) \\
 &= p+2q-2r-2p \\
 &= -p+2q-2r
 \end{aligned}$$

$$\begin{aligned}
 \text{(vi)} \quad & a - [-\{-(a-b-c)\}] \\
 &= a - [-\{-(a-b+c)\}] \\
 &= a - [-\{-a+b-c\}] \\
 &= a - [a-b+c] \\
 &= a - a + b - c \\
 &= b - c
 \end{aligned}$$

$$\begin{aligned}
 \text{(vii)} \quad & 3x - [5y - \{6y + 2(10y - x)\}] \\
 &= 3x - [5y - \{6y + 20y - 2x\}] \\
 &= 3x - [5y - 6y - 20y + 2x] \\
 &= 3x - 5y + 6y + 20y - 2x \\
 &= x + 21y
 \end{aligned}$$

$$\begin{aligned}
 \text{(viii)} \quad & 5\{a^2 - a(a - a - 2)\} \\
 &= 5\{a^2 - a(a - a + 2)\} \\
 &= 5\{a^2 - a\} \\
 &= 5\{a^2 - a^2 + a^2 - 2a\} \\
 &= 5a^2 - 5a^2 + 5a^2 - 10a \\
 &= 5a^2 - 10a
 \end{aligned}$$