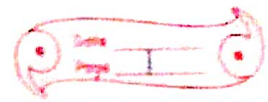


Homework



Exercise 20 (A)

$$\begin{aligned} 2. i) & 4p^9 \times 2p \\ & = 4 \times 5 \times 3 \times 2 \times 1 \\ & = 60 \times 1 = 60 \end{aligned}$$

$$\begin{aligned} ii) & \frac{yx}{z} \\ & = \frac{4 \times 8}{16} = \frac{4}{2} = 2 \end{aligned}$$

$$\begin{aligned} iii) & \frac{a+b-c}{2a} = \frac{5+7-2}{2 \times 5} \\ & = \frac{10}{10} = 1 \end{aligned}$$

Exercise 20 (B)

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

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

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

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

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

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

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

$$\begin{aligned} \text{viii)} \quad & 3x + (8x - 5x) - (7x - x) \\ & = 3x + 8x - 5x - 7x + x \\ & = 0 \end{aligned}$$

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

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

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

$$\begin{aligned} \text{xii)} \quad & -m - n - (-m) - m \\ & = -m - n + m - m \\ & = -m - m - n \\ & = -2m - n \end{aligned}$$

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

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

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

$$\begin{aligned}
 \text{xvi)} \quad & a - (2a - 4a + 3a) \\
 & = a - (2a - 4a - 3a) \\
 & = a - 2a + 4a + 3a \\
 & = \cancel{a} - \cancel{a} + 8a = 6a
 \end{aligned}$$

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

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

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

Exercise 20(C)

i) $2a + b - c = 2a + (b - c)$

ii) $3x - 2 + y = 3x - (2 - y)$

iii) $6p - 5x + q = 6p - (5x - q)$

iv) $a + b - c + d = a + (b - c + d)$

v) $5a + 4b + 4x - 2c = 4x - (2c - 4b - 5a)$

vi) $7x + 2z + 4y - 3 = -3 + 4y + (7x + 2z)$

vii) $3m - 2n + 6 = 6 - (2n - 3m)$

viii) $2 + r - p - q + s = 2 + r - (p + q - s)$