

27.21

Ex-19(B)

1.(i)  $3a+4b+7c, -5a+3b-6c, 4a-2b-4c.$   
 $-2a+5b+3c$

(ii)  $2x^2+xy-y^2, -x^2+2xy+3y^2, 3x^2-3x+1.$   
 $= 4x^2+(-7xy)+8y^2-6y^2$

(iii)  $x^2-x+1, -5x^2+2x-2, 3x^2-3x+1.$   
 $= -1x^2+0+(-2x)$

(iv)  $a^2-ab+bc, 2ab+bc-2a^2, -3bc+3a^2+ab.$   
 $= 2a^2+4ab-1bc$

(v)  $4x^2+7-3x, 4x-x^2+8, -10+5x-2x^2.$   
 $= -x^2+5x+6$

(vi)  $3x+4xy-y^2, 2xy-4x+2y^2, 3y^2-2xy+6x.$   
 $= 5x+4xy+4y^2$

2.(i)  $-17x^2-2xy+23y^2, -9y^2+15x^2+7xy,$   
 $13x^2+3y^2-4xy.$   
 $= -2x^2+5xy+17y^2$

(ii)  $-x^2-3xy+3y^2+8, 3x^2-5y^2-3+4xy,$   
 $-6xy+2x^2-2+y^2.$   
 $= 4x^2+(-5xy)+(-1y^2)+3$

(iii)  $a^3-2b^3+a^2b-2a^3+b, -2b+2b^3-5a+4a^3.$   
 $= 3a^3+3b^3+(-4a)+(-1b)$

4.(iv)  $-8x-12y+17z$  from  $x-y-z.$   
 $= x-y-z-(-8x-12y+17z)$   
 $= x-y-z+8x+12y-17z$   
 $= 9x+11y-18z$

(v)  $2ab+cd-ac-2bd$  from  $ab-2cd+2ac+bd.$   
 $= 3ab-2cd+2ac+bd-(2ab+cd-ac-2bd)$   
 $= ab-2cd+2ac+bd-2ab-cd+ac+2bd$   
 $= -1ab-3cd+3ac+3bd$

27.2.21

Ex-19(B)

$$\begin{aligned} 4.(i) \quad & a-4b-2c - (5a-3b+2c) \\ & = a-4b-2c-5a+3b-2c \\ & = -4a - 1b - 4c \\ & = -4a + 1b + 4c \end{aligned}$$

$$\begin{aligned} (ii) \quad & 12x+7y-21z - (4x-6y+3z) \\ & = 12x+7y-21z-4x+6y-3z \\ & = 8x + 13y - 24z \end{aligned}$$

$$\begin{aligned} (iii) \quad & 5a-7b+2c - (5-a-4b+4c) \\ & = 5a-7b+2c-5+a+4b-4c \\ & = 6a-3b-2c-5 \end{aligned}$$

$$\begin{aligned} 5.(i) \quad & bc-ca+ab - (-ab+bc-ca) \\ & = bc-ca+ab+ab-bc+ca \\ & = 0bc-0ca+(2ab)-2ab \end{aligned}$$

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

$$(iii) \quad \frac{1}{2}p - \frac{1}{3}q - \frac{3}{2}r - \left( \frac{-3}{2}p + q - r \right)$$

$$= \frac{1}{2}p - \frac{1}{3}q - \frac{3}{2}r + \frac{3}{2}p - q + r$$

$$= \frac{1}{2}p + \frac{3}{2}p - \frac{1}{3}q - q - \frac{3}{2}r + r$$

$$= \frac{4}{2}p - \frac{4}{3}q - \frac{1}{2}r$$

$$= 2p - \frac{4}{3}q - \frac{1}{2}r$$

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$$\begin{aligned}
 \text{(iv)} \quad & a^2 + a + 1 - (1 - a + a^2) \\
 & = a^2 + a + 1 - 1 + a - a^2 \\
 & = 2a
 \end{aligned}$$

$$\begin{aligned}
 6. \quad & \text{Sum of } x + y - 2z \text{ and } 2x - y + z \\
 & = x + y - 2z + 2x - y + z \\
 & = 3x - z
 \end{aligned}$$

$$\begin{aligned}
 & \text{Difference between } 3x - z \text{ and } x + y + z \\
 & = 3x - z - (x + y + z) \\
 & = 3x - z - x - y - z \\
 & = 2x - 2z - y
 \end{aligned}$$

$$\begin{aligned}
 7. \quad & \text{Sum of } 3a - 2b + 4c \text{ and } 3b - 2c \\
 & = 3a - 2b + 4c + 3b - 2c \\
 & = 3a + b + 2c
 \end{aligned}$$

$$\begin{aligned}
 & \text{Difference between } 3a + b + 2c \text{ and } a - b - c \\
 & = 3a + b + 2c - (a - b - c) \\
 & = 3a + b + 2c - a + b + c \\
 & = 2a + 2b + 3c
 \end{aligned}$$

$$\begin{aligned}
 8. \quad & \text{Sum of } 3x - y + z \text{ and } x + y - 3z \\
 & = 3x - y + z + x + y - 3z \\
 & = 4x - 2z
 \end{aligned}$$

$$\begin{aligned}
 & \text{Difference between } 4x - 2z \text{ and } x - 2y - z \\
 & = 4x - 2z - (x - 2y - z) \\
 & = 4x - 2z - x + 2y + z \\
 & = 3x - z + 2y
 \end{aligned}$$

$$\begin{aligned}
 9. \quad & \text{Sum of } x - 2z \text{ and } x + y + z \\
 & = x - 2z + x + y + z \\
 & = 2x - z + y
 \end{aligned}$$

$$\begin{aligned} &\text{Sum of } x+y \text{ and } x-z \\ &= x+y+x-z \\ &= 2x+y-z \end{aligned}$$

$$\begin{aligned} &\text{Difference between } 2x-z+y \text{ and } 2x+y-z \\ &= 2x-z+y - (2x+y-z) \\ &= \cancel{2x} - z + y - \cancel{2x} - y + z \\ &= 0 \end{aligned}$$

$$\begin{aligned} 3. \text{ (i) } &3a - (a+2b) \\ &= 3a - a - 2b \\ &= 2a - 2b \end{aligned}$$

$$\begin{aligned} \text{(ii) } &(5x-3y) - (x+y) \\ &= 5x-3y-x-y \\ &= 4x-4y \end{aligned}$$

$$\begin{aligned} \text{(iii) } &(8a+15b) - (3b-7a) \\ &= 8a+15b-3b+7a \\ &= \cancel{45a} = 15a+12b \end{aligned}$$

$$\begin{aligned} \text{(iv) } &(8x+7y) - (4y-3x) \\ &= 8x+7y-4y+3x \\ &= 11x+3y \end{aligned}$$

$$\begin{aligned} \text{(v) } &7 - (4a-5) \\ &= 7 - 4a + 5 \\ &= \cancel{7} - 4a + \cancel{5} = 12 - 4a \end{aligned}$$

$$\begin{aligned} \text{(vi) } &(6y-13) - (4-7y) \\ &= 6y-13-4+7y \\ &= 13y-16 \end{aligned}$$