

Exercise-19 (A)

① Fill in the blanks:-

i)  $5 + 4 = 9$  and  $5x + 4x = 9x$

ii)  $12 + 18 = 30$  and  $12x^2y + 18x^2y = 30x^2y$

iii)  $7 + 16 = 23$  and  $7a + 16b = 7a + 16b$

iv)  $1 + 3 = 4$  and  $x^2y + 3xy^2 = x^2y + 3xy^2$

v)  $7 - 4 = 3$  and  $7ab - 4ab = 3ab$

vi)  $12 - 5 = 7$  and  $12x - 5y = 12x - 5y$

vii)  $35 - 16 = 19$  and  $35ab - 16ba = 19ab$

viii)  $28 - 13 = 15$  and  $28ax^2 - 13a^2x = 28ax^2 - 13a^2x$

② Fill in the blanks:-

i) The sum of  $-2$  and  $-5 = -7$   
and the sum of  $-2x$  and  $-5x = -7x$

ii) The sum of  $8$  and  $-3 = 5$  and  
the sum of  $8ab$  and  $-3ab = 5ab$

iii) The sum of  $-15$  and  $-4 = -19$  and  
the sum of  $-15x$  and  $-4y = (-15x) + (-4y)$

iv)  $15 + 8 + 3 = \underline{26}$  and  
 $15n + 8y + 3n = \underline{15n + 3n + 8y = 18n + 8y}$

v)  $12 - 9 + 15 = \underline{12 + 15 - 9 = 27 - 9 = 18}$  and  
 $12ab - 9ab + 15ba = \underline{12ab + 15ba - 9ab = 27ab - 9ab = 18ab}$

vi)  $25 - 7 - 9 = \overset{18}{\cancel{25 - 7} - 9} = 9$  and  $25ny - 7ny - 9yz$   
 $= \underline{18ny - 9yz = 9ny}$

vii)  $-4 - 6 - 5 = \underline{-15}$  and  
 $-4ax - 6ax - 5ay = \underline{-10ax - 5ay}$

③ Add:

i)  $8ny$  and  $3ny$

$$8ny + 3ny = 11ny \text{ (Ans)}$$

ii)  $2nyz$ ,  $nyz$  and  $6nyz$

$$2nyz + nyz + 6nyz = 2nyz + 1nyz + 6nyz = 9nyz \text{ (Ans)}$$

iii)  $2a$ ,  $3a$ , and  $4b$

$$2a + 3a + 4b = 5a + 4b \text{ (Ans)}$$

iv)  $3x$  and  $2y$

$$3x + 2y \text{ (Ans)}$$

v)  $5m, 3n$  and  $4p$

$$5m + 3n + 4p \text{ (Ans)}$$

vi)  $6a, 3a$  and  $9ab$

$$6a + 3a + 9ab = 9a + 9ab \text{ (Ans)}$$

vii)  $3p, 4q$  and  $9q$

$$3p + 4q + 9q = 3p + 13q \text{ (Ans)}$$

viii)  $5ab, 4ba$  and  $6b$

$$5ab + 4ba + 6b = 9ab + 6b \text{ (Ans)}$$

ix)  $50pq, 30pq$  and  $10pr$

$$50pq + 30pq + 10pr = 80pq + 10pr \text{ (Ans)}$$

x)  $-2y, -y$  and  $-3y$

$$\begin{aligned} (-2y) + (-y) + (-3y) &= (-2y) + (-1y) + (-3y) \\ &= -6y \text{ (Ans)} \end{aligned}$$

xi)  $-3b$  and  $-b$

$$\begin{aligned} (-3b) + (-b) &= (-3b) + (-1b) \\ &= -4b \text{ (Ans)} \end{aligned}$$

ii)  $5b, -4b$  and  $-10b$

$$\begin{aligned} 5b + (-4b) + (-10b) &= 5b + (-14b) \\ &= 5b - 14b \\ &= -9b \text{ (Ans)} \end{aligned}$$

iii)  $-2c, c$  and  $-5c$

$$\begin{aligned} (-2c) + (c) + (-5c) \\ &= (-2c) + (-1c) + (-5c) \\ &= -8c \text{ (Ans)} \end{aligned}$$

4) Evaluate:

$$\begin{aligned} \text{i) } 6a - a - 5a - 2a \\ &= 6a - 1a - 5a - 2a \\ &= 6a - 8a \\ &= -2a \end{aligned}$$

$$\begin{aligned} \text{ii) } 2b - 3b - 6 + 4b \\ &= 2b + 4b - 3b - 6 \\ &= 6b - 6 \\ &= 2b \end{aligned}$$

$$\begin{aligned} \text{iii) } 3n - 2n - 4n + 7n \\ &= 3n + 7n - 2n - 4n \\ &= 10n - 6n \\ &= 4n \end{aligned}$$

$$\begin{aligned} \text{iv) } 5ab + 2ab - 6ab + ab \\ &= 5ab + 2ab + 1ab - 6ab \\ &= 8ab - 6ab \\ &= 2ab \end{aligned}$$

$$\begin{aligned} \text{v) } 8x - 5y - 3x + 10y \\ &= 8x - 3x + 10y - 5y \\ &= 5x + 5y \end{aligned}$$

5) Evaluate i-

$$\begin{aligned}
 \text{i)} & -7n + 9n + 2n - 2n \\
 & = 9n + 2n - 7n - 2n \\
 & = 11n - 9n \\
 & = 2n
 \end{aligned}$$

$$\begin{aligned}
 \text{ii)} & 5ab - 2ab - 8ab + 6ab \\
 & = 5ab + 6ab - 2ab - 8ab \\
 & = 11ab - 10ab \\
 & = 1ab
 \end{aligned}$$

$$\begin{aligned}
 \text{iii)} & -8a - 3a + 12a + 13a - 6a \\
 & = 12a + 13a - 8a - 3a - 6a \\
 & = 25a - 17a \\
 & = 8a
 \end{aligned}$$

$$\begin{aligned}
 \text{iv)} & 19abc - 11abc - 12abc + 14abc \\
 & = 19abc + 14abc - 11abc - 12abc \\
 & = 33abc - 23abc \\
 & = 10abc
 \end{aligned}$$

6) Subtract the first terms from the second:-

i) 4ab, 6ba

$$\begin{aligned}
 6ba - 4ab & = 6ab - 4ab \\
 & = 2ab
 \end{aligned}$$

ii) 4.8b, 6.8b

$$\begin{aligned}
 6.8b - 4.8b & \\
 & = 2b
 \end{aligned}$$

iii) 3.5abc, 10.5abc

$$\begin{aligned}
 10.5abc - 3.5abc & \\
 & = 7abc
 \end{aligned}$$