

30.7.21

CH-19



FUNDAMENTAL OPERATIONS

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) $15 + 8 + 3 = 26$ and $15x + 8y + 3x = 18x + 8y$

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

$$vi) 25 - 7 - 9 = \underline{9} \quad \text{and} \quad 25xy - 7xy - 9yx \\ = \underline{9xy}$$

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

3. Add :

$$i) 8xy + 3xy = \underline{11xy}$$

$$ii) 2xyz, xyz \text{ and } 6xyz = \underline{9xyz}$$

$$iii) 2a, 3a \text{ and } 4b = \underline{5a + 4b}$$

$$iv) 3x \text{ and } 2y = \underline{3x + 2y}$$

$$v) 5m, 3n \text{ and } 4p = \underline{5m + 3n + 4p}$$

$$vi) 6a, 3a \text{ and } 9ab = \underline{9a + 9ab}$$

$$vii) 3p, 4q \text{ and } 9q = \underline{3p + 13q}$$

$$viii) 5ab, 4ba \text{ and } 6b = \underline{9ab + 6b}$$

$$ix) 50pq, 30pq \text{ and } 10pr = \underline{80pq + 10pr}$$

$$x) -2y, -y \text{ and } -3y = \underline{-6y}$$

$$xi) -3b \text{ and } -b = \underline{-4b}$$

$$xi) 5b, -4b \text{ and } -10b = \underline{-9b}$$

$$xii) -2c, -c \text{ and } -5c = \underline{-8c}$$

4. Evaluate :

$$i) 6a - a - 5a - 2a = \underline{-2a}$$

$$ii) 2b - 3b - b + 4b = \underline{2b}$$

$$iii) 3x - 2x - 4x + 7x = \underline{4x}$$

$$iv) 5ab + 2ab - 6ab + ab = \underline{2ab}$$

$$v) 8x - 5y - 3x + 10y = \underline{5x + 5y}$$

5. Evaluate :

$$i) -7x + 9x + 2x - 2x = \underline{2x}$$

$$ii) 5ab - 2ab - 8ab + 6ab = \underline{-ab}$$

$$iii) -8a - 3a + 12a + 13a = 6a = \underline{8a}$$

$$iv) 19abc - 11abc - 12abc + 14abc = \underline{10abc}$$

6. Subtract the first term from the second :-

$$i) 4ab, 6ba \\ 6ba - 4ab = \underline{2ab}$$

$$ii) 4.8b, 6.8b \\ 6.8b - 4.8b = \underline{2b}$$

iii) $3 \cdot 5 abc, 10 \cdot 5 \cdot abc$
 $10 \cdot 5 abc - 3 \cdot 5 abc = 7 abc$

iv) $3 \frac{1}{2} mn, 8 \frac{1}{2} nm$

$$8 \frac{1}{2} nm - 3 \frac{1}{2} mn = \frac{17}{2} nm - \frac{7}{2} mn$$

$$= \frac{10}{2} nm = 5 mn$$

7. Simplify :-

i) $2a^2b^2 + 5ab^2 + 8a^2b^2 - 3ab^2$
 $= 2a^2b^2 + 8a^2b^2 + 5ab^2 - 3ab^2$
 $= 10a^2b^2 + 2ab^2$

ii) $4a + 3b - 2a - b$
 $= 4a - 2a + 3b - b$
 $= 2a + 2b$

iii) $2xy + 4yz + 5xy + 3yz - 6xy$
 $= 2xy + 5xy - 6xy + 4yz + 3yz$
 $= xy + 7yz$

iv) $ab + 15ab - 11ab - 2ab$
 $= 16ab - 13ab$
 $= 3ab$

v) $6a^2 - 3b^2 + 2a^2 + 5b^2 - 4a^2$
 $= 6a^2 + 2a^2 - 4a^2 - 3b^2 + 5b^2$
 $= 4a^2 + 2b^2$

$$\begin{aligned} \text{vi)} \quad & 8abc + 2ab - 4abc + ab \\ &= 8abc - 4abc + 2ab + ab \\ &= 4abc + 3ab \end{aligned}$$

$$\begin{aligned} \text{vii)} \quad & 9xy^2 + 15yxz - 10zyx - 2zxy \\ &= 9xy^2 + 15yxz - 12zyx \\ &= 12xy^2 \end{aligned}$$

$$\begin{aligned} \text{viii)} \quad & 13pqr + 2p + 4q - 6pqr + 5pqr \\ &= 13pqr + 5pqr - 6pqr + 2p + 4q \\ &= 12pqr + 2p + 4q \end{aligned}$$

$$\begin{aligned} \text{ix)} \quad & 4ab + 0 - 2ba \\ &= 2ab \end{aligned}$$

$$\begin{aligned} \text{x)} \quad & 6x^2y - 2xy^2 + 5x^2y - xy^2 \\ &= 6x^2y + 5x^2y - 2xy^2 - xy^2 \\ &= 11x^2y - 3xy^2 \end{aligned}$$