H.W 26.7.21

Ex-19(A)

1. Fill in the blanks.

(i) $5+4=\underline{9}$ and $5x+4x=\underline{9x}$
(ii) $12+18=\underline{30}$ and $12x^2y+18x^2y=\underline{30x^2y}$
(iii) $7+16=\underline{23}$ and $7a+16b=\underline{7a+16b}$
(iv) $1+3=\underline{4}$ and $x^2y+3xy^2=\underline{x^2y+3xy^2}$
(v) $7-4=\underline{3}$ and $7ab-4ab=\underline{3ab}$
(vi) $12-5=\underline{7}$ and $12xy-5x=\underline{12xy-5x}$
(vii) $35-16=\underline{19}$ and $35ab-16ba=\underline{19ab}$
(viii) $28-13=\underline{15}$ and $28ax^2-13a^2x=\underline{28ax^2-13a^2x}$

2. Fill in the blanks.

(i) The sum of -2 and $-5=\underline{-7}$ and the sum of $-2x$ and $-5x=\underline{-7x}$
(ii) The sum of 8 and $-3=\underline{5}$ and the sum of $8ab$ and $-3ab=\underline{5ab}$
(iii) The sum of -15 and $-4=\underline{-19}$ and the sum of $-15x$ and $-4y=\underline{-15x-4y}$
(iv) $15+8+3=\underline{26}$ and $15x+8y+3x=\underline{18x+8y}$
(v) $12-9+15=\underline{18}$ and $12ab-9ab+15ba=\underline{18ab}$

3. Add:

(i) $8xy$ and $3xy$
(ii) $2xyz$, xyz and $6xyz$
(iii) $2a$, $3a$ and $4b$
(iv) $3x$ and $2y$
(v) $5m$, $3n$ and $4p$
(vi) $6a$, $3a$ and $9ab$
(vii) $3p$, $4q$ and $9q$
(viii) $5ab$, $4ba$ and $6b$
(ix) $50pq$, $30pq$ and $10pr$
(x) $-2y$, $-y$ and $-3y$
(xi) $-3b$ and $-b$
(xii) $5b$, $-4b$ and $10b$

(xiii) $-2c, -c$ and $-5c$

solution:

i- $8xy + 3xy = 11xy$

ii- $2xyz + xyz + 6xyz = (2+1+6)xyz = 9xyz$

iii- $2a + 3a + 4b$

$= (2+3)a + 4b$

$= 5a + 4b$

iv- $3x + 2y = 3x + 2y$

v- $5m + 3n + 4p = 5m + 3n + 4p$

vi- $6a + 3a + 9ab$

$= (6+3)a + 9ab$

$= 9a + 9ab$

vii- $3p + 4q + 9q$

$= 3p + (4+9)q$

$= 3p + 13pq$

viii- $5ab + 4ba + 6b$

$= (5+4)ab + 6b$

$= 9ab + 6b$

ix- $50pq + 30pq + 10prz$

$= (50+30)pq + 10prz$

$= 80pq + 10prz$

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

$= -(2+1+3)$

$= 6y$

xi- $(-3b) + (-b)$

$= -(3+1)b$

$= -4b$

xii- $5b + (-4b) + (-10b)$

$= 5b - (4+10)b$

$= 5b - 14b = -9b$

xiii- $(-2c)+(-c)+(-5c)$

$= -(2+1+5)c = -8c$

4. Evaluate:

(i) $6a-a-5a-2a$

(ii) $2b-3b-b+4b$

(iii) $3x-2x-4x+7x$

(iv) $5ab+2ab-6ab+ab$

(v) $8x-5y-3x+10y$

Solution:

i- $6a-a-5a-2a = 6a-(1+5+2)a$

$= 6a-8a = -2a$

ii- $2b-3b-b+4b$

$= 2b+4b-(3+1)b$

$= 6b-4b = 2b$

iii- $3x-2x-4x+7x$

$= 3x+7x-2x-4x$

$= (3+7)x-(2+4)x$

$= 10x-6x = 4x$

iv- $5ab+2ab-6ab+ab$

$= 5ab+2ab+ab-6ab$

$= 8ab-6ab = 2ab$

v- $8x-5y-3x+10y$

$= 8x-3x+10y-5y$

$= 5x+5y$

5. Evalute:

(i) $7x+9x+2x-2x$

(ii) $5ab-2ab-8ab+6ab$

(iii) $8a-3a+12a+13a-6a$

(iv) $19abc-11abc-12abc+14abc$

solution:

i- $-7x + 9x + 2x - 2x$

$= 9x + 2x - 7x - 2x$

$= 11x - 9x = 2x$

ii- $5ab - 2ab - 8ab + 6ab$

$= 5ab + 6ab - 2ab - 8ab$

$= 11ab - 10ab = 1ab$

iii- $-8a - 3a + 12a + 13a - 6a$

$= 12a + 13a - (8a + 3a + 6a)$

$= 25a - 17a = 8a$

iv- $19abc - 11abc - 12abc + 14abc$

$= (19 - 11 - 12 + 14)abc$

$= abc(33 - 23) = 10abc$

6. Subtract the first term from the second:

(i) $4ab, 6ba$ (iii) $3.5abc$

(ii) $4.8b, 6.8b$ (iv) $3\frac{1}{2}mn, 8\frac{1}{2}nm$

solution:

i- $6ba - 4ab = 2ab$

ii- $6.8b - 4.8b = 2b$

iii- $10.5abc - 3.5abc = 7abc$

iv- $8\frac{1}{2}nm - 3\frac{1}{2}nm$

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

$= \frac{17mn - 7mn}{2} = \frac{10mn}{2} = 5mn$

7. Simplify:

(i) $2a^2b^2 + 5ab^2 + 8a^2b^2 - 3ab^2$
(ii) $4a + 3b - 2a - b$
(iii) $2xy + 4yz + 5xy + 3yz - 6xy$
(iv) $ab + 15ab - 11ab - 2ab$
(v) $6a^2 - 3b^2 + 2a^2 + 5b^2 - 4a^2$
(vi) $8abc + 2ab - 4abc + ab$
(vii) $9xyz + 15yxz - 10zyx - 2zxy$
(viii) $13pqrz + 2p + 4q - 6pqrz + 5pqrz$
(ix) $4ab + 0 - 2ba$

Solution:

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

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

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

vi- $8abc + 2ab - 4abc + ab$
$= 8abc - 4abc + 2ab + ab$
$= 4abc + 3ab$

(vii)- $9xyz + 15yxz - 10zyx - 2xzyz$

$= 9xyz + 15xyz - 10xyz - 2xyz$

$= 24xyz - 12xyz = 12xyz$

(viii)- $13pqrc + 2p + 4pq - 6pqrc + 5pqrc$

$= 13pqrc + 5pqrc - 6pqrc + 2p + 4q$

$= 12pqrc + 2p + 4q$

(ix) $4ab + 0 - 2ba$

$= 4ab - 2ab + 0 - 2ab$

(x) $6x^2y - 2xy^2 + 5x^2y - xy^2$

$= 6x^2y + 5x^2y - xy^2$

$= 11x^2y - 3xy^2$