CW
26/07/21

Chapter - 19

Fundamental concepts

$2+3=5$, $2x+3x=5x$

$7-5=2$, $7a-5a=2a$

$12-9=3$, $12x^2-9x^2=3x^2$

$20-13-7$, $20xy-13xy=7xy$

$3+2=5$, $3a^2b+2a^2b=5a^2b$

$6+9=15$, $6a+9b=$ $6a+9b$

$8+7=15$, $8ab+7a=8ab+7a$

$6x^2y+3xy=6x^2y+3xy$.

Exercise - 19 (A)

1) 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 $1x^2y+3x^2y^2=1x^2y+3xy^2$

v) $7-4=\underline{3}$ and $7ab-4ab=\underline{3ab}$.

vi) $12-5=\underline{7}$ and $12x-5y=\underline{12x-5y}$.

vii) $35-16=\underline{19}$ and $35ab-16ba=\underline{19ab}$.

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

2) 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) $12-9+15=18$ and $12ab-9ab+15ba=18ab$.

vi) $25-7-9=9$ and $25xy-7xy-9yx=9xy$.

vii) $-4(-6)(-5)=-15$ and $-4ax-6ax-5ay=-10ax-5ay$.

3 i) $8xy+3xy=11xy$.

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

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) $3p+1q+9q=3p+(1+9)q=3p+10q$.

viii) $5ab+4ba+6b=9ab+6b$.

ix) $50pq + 30pq + 10pr = (50+30)pq + 10pr = 80pq + 10pr$.

x) $-2y + -y + -3y = (-2 + -1 + -3) = -6y$.

xi) $-3b + -b = (-3 + -1)b = -4b$.

xii) $5b + -4b + -10b = -9b$.

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

4) i) $6a - a - 5a - 2a = (6-1-5-2)a = 6a - 8a = -2a$

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) i) $-7x + 9x + 2x - 2x = 9x + 2x - (7x) - (-2x) = 11x - 9x = 2x$

ii) $5ab - 2ab - 8ab + 6ab = 5ab + 6ab - 2ab - 8ab = 11ab - 10ab$
$= ab$

iii) $-8a - 3a + 12a + 13a - 6a = 12a + 13a - (8a + 3a + 6a) = 25a - 17a$
$= 8a$

iv) $19abc - 11abc - 12abc + 14abc = abc(19 - 11 - 12 + 14) = abc$
$(33 - 23) = 10abc$