Fundamental Operation

1(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 $1x^2y+3x^2y=3x^2y$

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

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

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

(viii) $28-13=15$ and $28a^2x^2-12a^2x^2=16a^2x^2$

$-12a^2x$

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

(ii) The sum of 8 and -3 is 5 and the sum of $8ab$ and $3ab$ is $5ab$.

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

(iv) $15+8+3 = 26$ and $15x + 8y + 3x = 15x + 8y + 3x$.

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

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

(vii) $-4 - 6 - 5 = -3$ and $-4ax - 6ax - 5ay = -4ax - 6ax - 5ay$.

3. (i) $8xy$ and $3xy = 11xy$

(ii) $2xyz$, xyz and $6xyz = 9xyz$

(iii) $2a$, $3a$ and $4b = 5a + 4b$

(iv) $3x$ and $2y = 3x + 2y$

(v) $5m$, $3n$ and $4p = 5m + 3n + 4p$

(vi) $6a$, $3a$ and $9ab = 9a + 9ab$

(vii) $3p$, $4p$ and $9p = 16p$

(viii) $5ab$, $4ba$ and $6b = 5ab + 4ba + 6b$

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

(x) $-2y$, $-y$, $-3y = -6y$

(xi) $-3b$ and $-b = -4b$

(xii) $5b$, $-4b$ and $-10b = -11b$

(xiii) $-2c$, $-c$ and $-5c = -8c$

4. (i) $6a - a - 5a - 2a = -2a$

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

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

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

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

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

$= 5x + 5y$

(vi) $-7x + 9x + 2x - 2x = 2x$

(vii) $5ab - 2ab - 8ab + 6ab = (5 - 2 - 8 + 6)ab$

$= 1ab$

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

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

$= 24a$

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

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

$= 10abc$