4. Find the sum of:

(i) $3a+4b+7c$, $-5a+3b-6c$ and $4a-2b-9c$.

$3a+4b+7c-5a+3b-6c+4a-2b-9c$

$3a-5a+4a+4b+3b-2b+7c-6c-9c$

$2a+5b-3c$

(ii) $2x^2+xy-y^2$, $-x^2+2xy+3y^2$ and $3x^2-3x-1$

$2x^2+xy-y^2+-x^2+2xy+3y^2+3x^2-3x+1$

$2x^2-x^2+3x^2+xy+2xy-3xy+-y^2+3y^2+1y^2$

$=4x^2-7xy+6y^2$

(iii) x^2-x+11, $-5x^2+12x-2$ and $3x^2-3x+1$

$x^2-x+11, -5x^2+12x-2+3x^2-3x+1$

$x^2-5x^2+3x^2+-x+12x-3x+1-2+11$

$-x^2+2x$ Ans

(iv) $a^2-ab+bc$, $2ab+bc-2a^2$ and $-3bc+3a^2+ab$

$a^2-ab+bc+2ab+bc-2a^2+3bc+3a^2+ab$

$a^2 - 2a^2 + ab$; $ab + 2ab + ab$, $bc + bc - bc$

$2a^2 + 4ac + ab$ Ans.

(iii) $4x^2 + 7 - 3x$, $9x - x^2 + 8$ and $-10 + 5x - 2x^2$.

$4x^2 + 7 - 3x + 9x - x^2 - 18 + -10 + 5x - 2x^2$

$4x^2 - x^2 - 2x^2 + 7 + 8 - 10 + 13x + 14x + 5x$

$1x^3 + 5 + 12x$ Ans.

(iv) $3x + 4xy - y^2$, $xy - 4x + 2y^2$ and $3y^2 - xy + 6x$

$3x + 4xy - y^2 + xy - 4x + 2y^2 + 3y^2 - xy + 6x$

$3x + 9x + 6x + 4xy + xy + xy + y^2 + 2y^2 + 3y^2$

$5x + 9xy + 4y^2$ Ans

2. Add the following expressions:

(i) $-17x^2 - 2xy + 23y^2$, $-9y^2 + 15x^2 + 7xy$ and $13x^2 + 3y^2 - 4xy$

$-17x^2 - 2xy + 23y^2 - 9y^2 + 15x^2 + 7xy + 13x^2 + 3y^2 - 4xy$

$-17x^2 + 15x^2 + 13x^2 + -2xy + 7xy - 4xy + 23y^2 - 9y^2 + 3y^2$

$11x^2 + 1xy + 17y^2$ Ans.

(ii) $-x^2-3xy+3y^2+8, 3x^2-5y^2-3+4xy, -6xy+2x^2-2y$

$=-x^2-3xy+3y^2+8+3x^2-5y^2-3+4xy, -6xy+2x^2-2+y^2$

$=x^2+3x^2+2x^2+-3xy+4xy-6xy+3y^2-5y^2+y^2+8-3-2$

$=4x^2+-5xy-y^2+3$

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

a^3-2b^3+a, $b^3-2a^3+b+-2b+2b^3-5a+4a^3$

$=3a^3+3b^3-4b-3b$

3- Evaluate:

(i) $3a-(a+2b)$ (ii) $(5x-3y)-(x+y)$ (iii) $(8a+15b)-(3a-7b)$

$3a-a+2b$ $4x-4y$ $11a-12b$

$2a-2b$

(iv) $(8x+7y)-(4y-3x)$ (v) $7-(4a-5)$

$5x-3y$ $2-4a$

(vi) $(6y+4)-(4-2y)$

$(-1y+9)$

(i) Take $ab+bc-ca$ from $bc-ca+ab$

Ans $2ab$

(ii) Take $5x+6y-3z$ from $3x+5y-4z$

$\Rightarrow 2-y-z$

(iii) Take $-\frac{3}{2}p+q-r$ from $\frac{1}{2}p-\frac{1}{3}q-\frac{3}{2}r$

$2p-\frac{4}{3}q-\frac{1}{2}r$

(iv) Take $7-a+a^2$ from a^2+a+7

$2a$

6. From the sum of $x+y-z$ and $2x-y+z$ subtract $x+y+z$

A. $2x-y-2z$

7. From the sum of $3a-2b+4c$ and $3b-2c$ subtract $a-b+c$

A. $2a+2b+3c$

8. Subtract $x-2y-z$ from the sum of $3x+y$ and $x+y-2z$

A- $3x+2y-2$

2- Subtract the sum of $x+y$ and $x-2$ from the sum of $x-2$ and $y+y+2$.