

3.) Add the following.

(i) $ab - bc, bc - ca, ca - ab$

Ans:

$ab - bc$

$$\begin{array}{r} + \quad \quad \quad bc - ca \\ \quad \quad \quad - ab \quad \quad ca \\ \hline \end{array}$$

0

Sum of $ab - bc, bc - ca, ca - ab$ is **0**.

(ii) $a - b + ab, b - c + bc, c - a + ac$

Ans:

$$\begin{array}{r} \quad \quad \quad a - b + ab \\ + \quad \quad \quad b \quad \quad - c + bc \\ + \quad - a \quad \quad \quad c \quad \quad + ac \\ \hline \end{array}$$

$ab + bc + ac$

Sum of $a - b + ab, b - c + bc, c - a + ac$ is **$ab + bc + ac$** .

(iii) $2p^2q^2 - 3pq + 4, 5 + 7pq - 3p^2q^2$

Ans:

$$\begin{array}{r} \quad \quad \quad 2p^2q^2 - 3pq + 4 \\ + \quad - 3p^2q^2 + 7pq + 5 \\ \hline \end{array}$$

$-p^2q^2 + 4pq + 9$

Sum of $2p^2q^2 - 3pq + 4, 5 + 7pq - 3p^2q^2$ is **$-p^2q^2 + 4pq + 9$** .

(iv) $l^2 + m^2, m^2 + n^2, n^2 + l^2, 2lm + 2mn + 2nl$

Ans:

Net Explanations

$$\begin{array}{r}
l^2 + m^2 \\
+ \quad m^2 + n^2 \\
+ \quad \quad n^2 + l^2 \\
+ \quad \quad \quad 2lm + 2mn + 2nl \\
\hline
\end{array}$$

$$2l^2 + 2m^2 + 2n^2 + 2lm + 2mn + 2nl$$

Sum of $l^2 + m^2$, $m^2 + n^2$, $n^2 + l^2$, $2lm + 2mn + 2nl$ is **$2l^2 + 2m^2 + 2n^2 + 2lm + 2mn + 2nl$**

4.)(a) Subtract $4a - 7ab + 3b + 12$ from $12a - 9ab + 5b - 3$

Ans:

$$\begin{array}{r}
12a - 9ab + 5b - 3 \\
- \quad 4a - 7ab + 3b + 12 \\
\hline
\end{array}$$

$$8a - 2ab + 2b - 15$$

Subtraction is **$8a - 2ab + 2b - 15$** .

(b) Subtract $3xy + 5yz - 7zx$ from $5xy - 2yz - 2zx + 10xyz$

Ans:

$$\begin{array}{r}
5xy - 2yz - 2zx + 10xyz \\
- \quad 3xy + 5yz - 7zx \\
\quad (-) \quad (-) \quad (+) \\
\hline
\end{array}$$

$$2xy - 7yz + 5zx + 10xyz$$

Subtraction is **$2xy - 7yz + 5zx + 10xyz$** .

(c) Subtract $4p^2q - 3pq + 5pq^2 - 8p + 7q - 10$ from $18 - 3p - 11q + 5pq - 2pq^2 + 5p^2q$

Ans:

$$18 - 3p - 11q + 5pq - 2pq^2 + 5p^2q$$

Net Explanations

$$- 10 - 8p + 7p - 3pq + 5pq^2 + 4p^2q$$

$$(+) \quad (+) \quad (-) \quad (+) \quad (-) \quad (-)$$

$$28 + 5p - 18q + 8pq - 7pq^2 + p^2q$$

Subtraction is **$28 + 5p - 18q + 8pq - 7pq^2 + p^2q$** .