Algebraic Expressions and Identities Ex 6.2 Q4

Answer :

Let first add the expressions $x-3y+2z$ and $-4x+9y-11z$. We get:

$$\begin{aligned}&(x-3y+2z)+(-4x+9y-11z)\\&=x-3y+2z-4x+9y-11z\\&=x-4x-3y+9y+2z-11z \quad \text{(Collecting like terms)}\\&=-3x+6y-9z \quad \text{(Combining like terms)}\end{aligned}$$

Now, subtracting the expression $3x-4y-7z$ from the above sum; we get:

$$\begin{aligned}&(-3x+6y-9z)-(3x-4y-7z)\\&=-3x+6y-9z-3x+4y+7z\\&=-3x-3x+6y+4y-9z+7z \quad \text{(Collecting like terms)}\\&=-6x+10y-2z \quad \text{(Combining like terms)}\end{aligned}$$

Thus, the answer is $-6x+10y-2z$.

Algebraic Expressions and Identities Ex 6.2 Q5

Answer :

We have to subtract the sum of $(3l-4m-7n^2)$ and $(2l+3m-4n^2)$ from the sum of $(9l+2m-3n^2)$ and $(-3l+m+4n^2)$

$$\begin{aligned}&\left\{(9l+2m-3n^2)+(-3l+m+4n^2)\right\}-\left\{(3l-4m-7n^2)+(2l+3m-4n^2)\right\}\\&=(9l-3l+2m+m-3n^2+4n^2)-(3l+2l-4m+3m-7n^2-4n^2)\\&=(6l+3m+n^2)-(5l-m-11n^2) \quad \text{(Combining like terms inside the parentheses)}\\&=6l+3m+n^2-5l+m+11n^2\\&=6l-5l+3m+m+n^2+11n^2 \quad \text{(Collecting like terms)}\\&=l+4m+12n^2 \quad \text{(Combining like terms)}\end{aligned}$$

Thus, the required solution is $l+4m+12n^2$.

Algebraic Expressions and Identities Ex 6.2 Q6

Answer :

We have to subtract the sum of $(2x-x^2+5)$ and $(-4x-3+7x)$ from 5.

$$\begin{aligned}&5-\left\{(2x-x^2+5)+(-4x-3+7x^2)\right\}\\&=5-(2x-4x-x^2+7x^2+5-3)\\&=5-2x+4x+x^2-7x^2-5+3\\&=5-5+3-2x+4x+x^2-7x^2 \quad \text{(Collecting like terms)}\\&=3+2x-6x^2 \quad \text{(Combining like terms)}\end{aligned}$$

Thus, the answer is $3+2x-6x^2$.

********** END **********