Algebraic Expressions and Identities Ex 6.2 Q4

Answer :

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

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

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

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

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 $(-3l+m+4n^2)$

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

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.

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

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

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