Algebraic Expressions and Identities Ex 6.5 Q11

Answer :

To multiply, we will use distributive law as follows:

$$\begin{aligned}&\left(2x^2y^2-5xy^2\right)\left(x^2-y^2\right)\\&=2x^2y^2\left(x^2-y^2\right)-5xy^2\left(x^2-y^2\right)\\&=2x^4y^2-2x^2y^4-5x^3y^2+5xy^4\end{aligned}$$

Thus, the answer is $2x^4y^2-2x^2y^4-5x^3y^2+5xy^4$.

Algebraic Expressions and Identities Ex 6.5 Q12

Answer :

To multiply the expressions, we will use the distributive law in the following way:

$$\begin{aligned}&\left(\frac{x}{7}+\frac{x^2}{2}\right)\left(\frac{2}{5}+\frac{9x}{4}\right)\\&=\frac{x}{7}\left(\frac{2}{5}+\frac{9x}{4}\right)+\frac{x^2}{2}\left(\frac{2}{5}+\frac{9x}{4}\right)\\&=\frac{2x}{35}+\frac{9x^2}{28}+\frac{x^2}{5}+\frac{9x^3}{8}\\&=\frac{2x}{35}+\left(\frac{45+28}{140}\right)x^2+\frac{9x^3}{8}\\&=\frac{2x}{35}+\frac{73x^2}{140}+\frac{9x^2}{8}\end{aligned}$$

Thus, the answer is $\frac{2x}{35}+\frac{73x^2}{140}+\frac{9x^3}{8}$

Algebraic Expressions and Identities Ex 6.5 Q13

Answer :

To multiply, we will use distributive law as follows:

$$\left(-\frac{a}{7}+\frac{a^2}{9}\right)\left(\frac{b}{2}-\frac{b^2}{3}\right)$$
$$=\left(-\frac{a}{7}\right)\left(\frac{b}{2}-\frac{b^2}{3}\right)+\left(\frac{a^2}{9}\right)\left(\frac{b}{2}-\frac{b^2}{3}\right)$$
$$=\left(-\frac{ab}{14}+\frac{ab^2}{21}\right)+\left(\frac{a^2b}{18}-\frac{a^2b^2}{27}\right)$$
$$=-\frac{ab}{14}+\frac{ab^2}{21}+\frac{a^2b}{18}-\frac{a^2b^2}{27}$$

Thus, the answer is $-\frac{ab}{14}+\frac{ab^2}{21}+\frac{a^2b}{18}-\frac{a^2b^2}{27}$.

Algebraic Expressions and Identities Ex 6.5 Q14

Answer :

To multiply, we will use distributive law as follows:

$$\left(3x^2y-5xy^2\right)\left(\frac{1}{5}x^2+\frac{1}{3}y^2\right)$$
$$=\frac{1}{5}x^2\left(3x^2y-5xy^2\right)+\frac{1}{3}y^2\left(3x^2y-5xy^2\right)$$
$$=\frac{3}{5}x^4y-x^3y^2+x^2y^3-\frac{5}{3}xy^4$$

Thus, the answer is $\frac{3}{5}x^4y-x^3y^2+x^2y^3-\frac{5}{3}xy^4$.

Algebraic Expressions and Identities Ex 6.5 Q15

Answer :

To multiply, we will use distributive law as follows:

$$\left(2x^2-1\right)\left(4x^3+5x^2\right)$$
$$=2x^2\left(4x^3+5x^2\right)-1\left(4x^3+5x^2\right)$$
$$=8x^5+10x^4-4x^3-5x^2$$

Thus, the answer is $8x^5+10x^4-4x^3-5x^2$.

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