Algebraic Expressions and Identities Ex 6.5 Q1

Answer :

To multiply, we will use distributive law as follows:

$$
\begin{aligned}
&(5x+3)(7x+2)\\
&=5x(7x+2)+3(7x+2)\\
&=(5x\times 7x+5x\times 2)+(3\times 7x+3\times 2)\\
&=\left(35x^2+10x\right)+(21x+6)\\
&=35x^2+10x+21x+6\\
&=35x^2+31x+6
\end{aligned}
$$

Thus, the answer is $35x^2+31x+6$.

Algebraic Expressions and Identities Ex 6.5 Q2

Answer :

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

$$
\begin{aligned}
&(2x+8)(x-3)\\
&=2x(x-3)+8(x-3)\\
&=(2x\times x-2x\times 3)+(8x-8\times 3)\\
&=\left(2x^2-6x\right)+(8x-24)\\
&=2x^2-6x+8x-24\\
&=2x^2+2x-24
\end{aligned}
$$

Thus, the answer is $2x^2+2x-24$.

Algebraic Expressions and Identities Ex 6.5 Q3

Answer :

To multiply, we will use distributive law as follows:

$$\begin{aligned}&(7x+y)(x+5y)\\&=7x(x+5y)+y(x+5y)\\&=7x^2+35xy+xy+5y^2\\&=7x^2+36xy+5y^2\end{aligned}$$

Thus, the answer is $7x^2+36xy+5y^2$.

Algebraic Expressions and Identities Ex 6.5 Q4

Answer :

To multiply, we will use distributive law as follows:

$$\begin{aligned}&(a-1)(0.1a^2+3)\\&=0.1a^2(a-1)+3(a-1)\\&=0.1a^3-0.1a^2+3a-3\end{aligned}$$

Thus, the answer is $0.1a^3-0.1a^2+3a-3$.

Algebraic Expressions and Identities Ex 6.5 Q5

Answer :

To multiply, we will use distributive law as follows:

$$\begin{aligned}&\left(3x^2+y^2\right)\left(2x^2+3y^2\right)\\&=3x^2\left(2x^2+3y^2\right)+y^2\left(2x^2+3y^2\right)\\&=6x^4+9x^2y^2+2x^2y^2+3y^4\\&=6x^4+11x^2y^2+3y^4\end{aligned}$$

Thus, the answer is $6x^4+11x^2y^2+3y^4$.

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