Algebraic Expressions and Identities Ex 6.3 Q9

Answer :

To multiply algebraic expressions, we use commutative and associative laws along with the law of indices, i.e., $a^m \times a^n = a^{m+n}$.

We have:

$$(7ab) \times \left(-5ab^2c\right) \times \left(6abc^2\right)$$
$$= \{7 \times (-5) \times 6\} \times (a \times a \times a) \times \left(b \times b^2 \times b\right) \times \left(c \times c^2\right)$$
$$= \{7 \times (-5) \times 6\} \times \left(a^{1+1+1}\right) \times \left(b^{1+2+1}\right) \times \left(c^{1+2}\right)$$
$$= -210a^3b^4c^3$$

Thus, the answer is $-210a^3b^4c^3$.

Algebraic Expressions and Identities Ex 6.3 Q10

Answer :

To multiply algebraic expressions, we use commutative and associative laws along with the law of indices, i.e., $a^m \times a^n = a^{m+n}$.
We have:

$$(-5a) \times \left(-10a^2\right) \times \left(-2a^3\right)$$
$$= \{(-5) \times (-10) \times (-2)\} \times \left(a \times a^2 \times a^3\right)$$
$$= \{(-5) \times (-10) \times (-2)\} \times \left(a^{1+2+3}\right)$$
$$= -100a^6$$

Thus, the answer is $-100a^6$.

Algebraic Expressions and Identities Ex 6.3 Q11

Answer :

To multiply algebraic expressions, we use commutative and associative laws along with the law of indices, i.e., $a^m \times a^n = a^{m+n}$.

We have:

$$\left(-4x^2\right) \times \left(-6xy^2\right) \times \left(-3yz^2\right)$$
$$= \{(-4) \times (-6) \times (-3)\} \times \left(x^2 \times x\right) \times \left(y^2 \times y\right) \times z^2$$
$$= \{(-4) \times (-6) \times (-3)\} \times \left(x^{2+1}\right) \times \left(y^{2+1}\right) \times z^2$$
$$= -72x^3y^3z^2$$

Thus, the answer is $-72x^3y^3z^2$.

Algebraic Expressions and Identities Ex 6.3 Q12

Answer :

To multiply algebraic expressions, we use commutative and associative laws along with the law of indices, i.e., $a^m \times a^n = a^{m+n}$.

We have:

$$\left(-\tfrac{2}{7}a^4\right) \times \left(-\tfrac{3}{4}a^2b\right) \times \left(-\tfrac{14}{5}b^2\right)$$
$$= \left\{\left(-\tfrac{2}{7}\right) \times \left(-\tfrac{3}{4}\right) \times \left(-\tfrac{14}{5}\right)\right\} \times \left(a^4 \times a^2\right) \times \left(b \times b^2\right)$$
$$= \left\{-\left(\tfrac{2}{7} \times \tfrac{3}{4} \times \tfrac{14}{5}\right)\right\} \times a^{4+2} \times b^{1+2}$$
$$= \left\{-\left(\frac{\cancel{2}}{\cancel{7}} \times \frac{3}{\cancel{4}_{\cancel{2}}} \times \frac{\cancel{14}^{\cancel{7}^1}}{5}\right)\right\} \times a^6 \times b^3$$
$$= -\tfrac{3}{5}a^6b^3$$

Thus, the answer is $-\tfrac{3}{5}a^6b^3$.

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