Algebraic Expressions and Identities Ex 6.3 Q5

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:

$$\left(-\frac{7}{5}xy^2z\right) \times \left(\frac{13}{3}x^2yz^2\right)$$
$$= \left(-\frac{7}{5} \times \frac{13}{3}\right) \times (x \times x^2) \times (y^2 \times y) \times (z \times z^2)$$
$$= \left(-\frac{7}{5} \times \frac{13}{3}\right) \times (x^{1+2}) \times (y^{2+1}) \times (z^{1+2})$$
$$= -\frac{91}{15}x^3y^3x^3$$

Thus, the answer is $-\frac{91}{15}x^3y^3x^3$.

Algebraic Expressions and Identities Ex 6.3 Q6

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:

$$\left(-\frac{24}{25}x^3z\right) \times \left(-\frac{15}{16}xz^2y\right)$$
$$= \left\{\left(-\frac{24}{25}\right) \times \left(-\frac{15}{16}\right)\right\} \times (x^3 \times x) \times (z \times z^2) \times y$$
$$= \left\{\left(-\frac{24}{25}\right) \times \left(-\frac{15}{16}\right)\right\} \times (x^{3+1}) \times (z^{1+2}) \times y$$
$$= \frac{9}{10}x^4yz^3$$

Thus, the answer is $\frac{9}{10}x^4yz^3$.

Algebraic Expressions and Identities Ex 6.3 Q7

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:

$$\left(-\frac{1}{27}a^2b^2\right) \times \left(\frac{9}{2}a^3b^2c^2\right)$$
$$= \left(-\frac{1}{27} \times \frac{9}{2}\right) \times (a^2 \times a^3) \times \left(b^2 \times b^2\right) \times c^2$$
$$= \left(-\frac{1}{27} \times \frac{9}{2}\right) \times (a^{2+3}) \times \left(b^{2+2}\right) \times c^2$$
$$= -\frac{1}{6}a^5b^4c^2$$

Thus, the answer is $-\frac{1}{6}a^5b^4c^2$.

Algebraic Expressions and Identities Ex 6.3 Q8

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:

$$(-7xy) \times \left(\frac{1}{4}x^2yz\right)$$
$$= \left(-7 \times \frac{1}{4}\right) \times (x \times x^2) \times (y \times y) \times z$$
$$= \left(-7 \times \frac{1}{4}\right) \times (x^{1+2}) \times (y^{1+1}) \times z$$
$$= -\frac{7}{4}x^3y^2z$$

Thus, the answer is $-\frac{7}{4}x^3y^2z$.

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