Algebraic Expressions and Identities Ex 6.3 Q17

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:

$$(2.3xy) \times (0.1x) \times (0.16)$$
$$= (2.3 \times 0.1 \times 0.16) \times (x \times x) \times y$$
$$= (2.3 \times 0.1 \times 0.16) \times (x^{1+1}) \times y$$
$$= 0.0368x^2y$$

Thus, the answer is $0.0368x^2y$.

Algebraic Expressions and Identities Ex 6.3 Q18

Answer :

We have to find the product of the expression in order to express it as a monomial.

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:

$$(3x) \times (4x) \times (-5x)$$
$$= \{3 \times 4 \times (-5)\} \times (x \times x \times x)$$
$$= \{3 \times 4 \times (-5)\} \times (x^{1+1+1})$$
$$= -60x^3$$

Substituting $x = 1$ in LHS, we get:

$$\text{LHS} = (3x) \times (4x) \times (-5x)$$
$$= (3 \times 1) \times (4 \times 1) \times (-5 \times 1)$$
$$= -60$$

Putting $x = 1$ in RHS, we get:

$$\text{RHS} = -60x^3$$
$$= -60(1)^3$$
$$= -60 \times 1$$
$$= -60$$

$\because$ LHS = RHS for $x = 1$; therefore, the result is correct

Thus, the answer is $-60x^3$.

Algebraic Expressions and Identities Ex 6.3 Q19

Answer :

We have to find the product of the expression in order to express it as a monomial.

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:

$$\left(4x^2\right) \times (-3x) \times \left(\tfrac{4}{5}x^3\right)$$
$$= \left\{4 \times (-3) \times \tfrac{4}{5}\right\} \times \left(x^2 \times x \times x^3\right)$$
$$= \left\{4 \times (-3) \times \tfrac{4}{5}\right\} \times \left(x^{2+1+3}\right)$$
$$= -\tfrac{48}{5}x^6$$

$$\therefore \left(4x^2\right) \times (-3x) \times \left(\tfrac{4}{5}x^3\right) = -\tfrac{48}{5}x^6$$

Substituting $x = 1$ in LHS, we get:

$$\text{LHS} = \left(4x^2\right) \times (-3x) \times \left(\tfrac{4}{5}x^3\right)$$
$$= \left(4 \times 1^2\right) \times (-3 \times 1) \times \left(\tfrac{4}{5} \times 1^3\right)$$
$$= 4 \times (-3) \times \tfrac{4}{5}$$
$$= -\tfrac{48}{5}$$

Putting $x = 1$ in RHS, we get:

$$\text{RHS} = -\tfrac{48}{5}x^6$$
$$= -\tfrac{48}{5} \times 1^6$$
$$= -\tfrac{48}{5}$$

$\because$ LHS = RHS for $x = 1$; therefore, the result is correct

Thus, the answer is $-\tfrac{48}{5}x^6$.

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