Multiplication of Two Monomials

A. Choose the correct answer:

1. The product of $(3x)$ and $(4x^2)$ is:

a) $12x^2$ b) $12x^3$

c) $7x^3$ d) $7x^2$

2. What is the result of $(2a^3)(5a^2)$?

a) $10a^5$ b) $7a^5$

c) $10a^6$ d) $7a^6$

3. Find the product of $(-3p^2)$ and $(2p^3)$:

a) $-6p^5$ b) $-6p^6$

c) $6p^5$ d) $6p^6$

4. Multiply $\left(\frac{4m}{5}\right)$ and $\left(\frac{10n}{3}\right)$:

a) $\frac{8mn}{3}$ b) $\frac{8mn}{5}$

c) $\frac{40mn}{15}$ d) $\frac{20mn}{15}$

5. The product of $(-2x^3)$ and $(-5x^2)$ is:

a) $10x^5$ b) $-10x^5$

c) $-7x^5$ d) $7x^5$

B. Write the Missing Terms to Complete the Sentences:

1. The product of two monomials is always a _____.
2. $(6a^2)(2a^3)$ = _____.
3. When multiplying monomials, we _____ the coefficients and _____ the powers.
4. $\left(\frac{3x}{2}\right)\left(\frac{4y}{5}\right)$ = _____.
5. Multiplying $(5m^2n)$ and $(2mn^3)$ results in _____.

C. Mark each sentence with a True (✔) or False (✗):

1. The product of two monomials is a monomial. _____

2. When multiplying monomials, powers of like bases are added. _____
3. $(2x^2)(3x^3) = 5x^6$. _____
4. The product of $(-3a^2)$ and $(-2a^3)$ is positive. _____
5. $\left(\frac{4p}{7}\right)\left(\frac{7q}{4}\right)$ simplifies to pq. _____

D. Figure out the answers to these questions:

1. Find the product of $(2x^2)$ and $(3x^4)$.
2. Multiply $(-5p^3q^2)$ and $(4pq^3)$.
3. Simplify: $(3a^2b^3)(-2a^3b)$.
4. Find the result of $(7m^2n)(-3mn^2)$.
5. Multiply $\left(\frac{2x}{3}\right)$ and $\left(\frac{5y}{4}\right)$ and simplify.

E. Challenge yourself with these questions:

1. Multiply $(5x^2)$ and $(3x^4)$ and state the degree of the result.
2. Find the product of $(-2m^3n^2)$ and $(3m^2n^4)$.
3. Simplify: $(7a^2b)(-5ab^2)$.
4. Multiply $\left(\frac{3p}{5}\right)$ and $\left(\frac{10q}{3}\right)$.
5. Find the product of $(4x^3y^2)$ and $(-2xy^3)$.