Division of Algebraic Expressions

A. Choose the correct answer:

1. What is $\frac{6x^2y}{2xy}$ equal to?

a) 3xy b) 3x

c) 3y d) 6xy

2. Divide ($9a^3b^2$) by (3ab):

a) $3a^2b$ b) $6a^2b$

c) $3a^2b^2$ d) 6ab

3. $\frac{8p^2q}{4pq^2}$ simplifies to:

a) $\frac{2p}{q}$ b) $\frac{2q}{p}$

c) $\frac{2p}{q^2}$ d) $\frac{2p^2}{q}$

4. The quotient of ($12x^3y^2$) ÷ ($4x^2y$) is:

a) $3x^2y$ b) 3xy

c) 3x d) 6x

5. Divide ($15m^2n^3$) by ($5mn^2$):

a) 3mn b) $3m^2n$

c) $2m^2n$ d) $3m^2n^2$

B. Write the Missing Terms to Complete the Sentences:

1. Dividing two algebraic expressions involves dividing their _____ and _____ separately.

2. $\frac{10x^2y^3}{5xy}$ = _____.

3. ($6a^3b^2$) ÷ ($2a^2b$) simplifies to _____.

4. The division of ($4p^2q$) by (2pq) results in _____.

5. $\frac{9x^3}{3x}$ simplifies to _____.

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

1. $\frac{6x^2}{2x}$ simplifies to 3x. _____
2. When dividing monomials, we subtract the exponents of like bases. _____
3. $\frac{8a^3b}{4ab^2}$ simplifies to $2a^2b^2$. _____
4. Division of two like terms gives another like term. _____
5. $\frac{12m^3}{3m^2}$ simplifies to 4m. _____

D. Figure out the answers to these questions:

1. Simplify $\frac{12x^2y^3}{4xy^2}$.
2. Find the result of $\frac{15a^3b^2}{5ab}$.
3. Divide $(6m^2n^4)$ by $(3mn^2)$.
4. Simplify $\frac{8x^3y^2z}{2x^2yz}$.
5. Divide $(10p^2q^3r)$ by $(5pq^2)$.

E. Challenge yourself with these questions:

1. Divide $(18x^2y^3)$ by $(6xy)$.
2. Find the simplified form of $\frac{20a^3b^2c}{5ab}$.
3. Simplify $\frac{9m^2n^3p}{3mn}$.
4. Divide $\frac{7x^2y}{2xy^2}$.
5. Find the quotient of $(16p^4q^2)$ and $(8p^2q)$.