

## 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  $(12x^3y^2) \div (4x^2y)$  is:

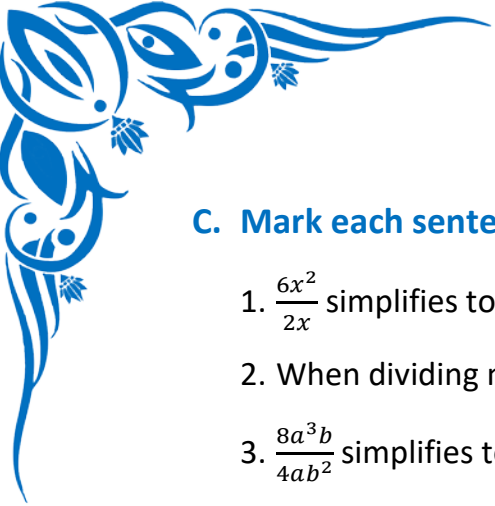
- a)  $3x^2y$
- b)  $3xy$
- c)  $3x$
- d)  $6x$

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.  $(6a^3b^2) \div (2a^2b)$  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 (X):**

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  $(8p^2q)$ .