Factorization When a Common Monomial Factor Occurs in Each Term

A. Choose the Correct Answer:

- 1. The common factor in the expression $6x^2 + 9x$ is: a) 6x b) 9x c) 3x d) 2x 2. The factorized form of $8p^2 + 12p$ is: a) 4p(p + 3)b) 8p(p + 1.5)d) $4p^{2}(p + 3)$ c) 8p(p + 2)3. Which of the following is the correct factorization of 5a²b + 10ab²? a) 5ab(a + 2b)b) 5ab(a + b)c) $5ab^{2}(a + 2)$ d) $5a^{2}b(a + 2b)$ 4. In factorizing 15xy – 20x², the common monomial factor is: a) 5xy b) 5x
 - c) 15x d) 20x
- 5. The factorized form of $7x^2y + 14xy^2$ is:
 - a) 7xy(x + 2y)c) $7xy^2(x + 2)$ b) $7x(xy + 2y^2)$ d) $7x^2(y + 2y)$

B. Write the Missing Terms to Complete the Sentences:

- 1. In factorization, we take out the _____ common factor from each term
- 2. 9xy + 12xz = _____ × (y + z).
- 3. In 18ab + 24ac, the common factor is ______.
- When factorizing, after taking out the common factor, the expression inside the bracket is ______.
- 5. 5p²q + 10pq² = _____ × (p + 2q).

C. Figure out the answers to these questions:

- 1. Factorize $14a^2b 21ab^2$.
- 2. Factorize $12x^2 + 8xy$.
- 3. Find the common monomial factor and factorize $9m^2n 6mn^2$.
- 4. Factorize $18p^2q + 27pq^2$.
- 5. Factorize $16xy 24x^2y^2$.

D. Mark each sentence with a True (\checkmark) or False (X):

- 1. In factorization, the common monomial factor must divide all terms exactly.
- 2. Factorizing $6x^2 + 9x$ gives 3x(2x + 3).
- 3. In $10a^2b 15ab^2$, the common factor is 5ab.
- 4. Factorization by taking common monomial factor simplifies the expression.
- 5. After factorization, the number of terms inside the bracket always reduces to one.

E. Challenge yourself with these questions:

- 1. Factorize $5x^2y 10xy^2$
- 2. Factorize 18p²q + 12pq²
- 3. Find the common monomial factor and factorize 24m²n 36mn²
- 4. Factorize 21ab + 14ac
- 5. Factorize $12xy^2 + 16x^2y$