# **Factorization When a Binomials is Common**

#### A. Choose the Correct Answer:

- 1. The factorized form of (x + y) + 3(x + y) is:
  - a) (x + y) (1 + 3)c) (x + y) (x + 3)b) (x + y) (1 - 3)d) (x + y) (x - 3)
- 2. In the expression 2p(p + q) + 5(p + q), the common binomial factor is:

a) 2p + 5	b) p + q
c) p	d) q

3. (a + b) (2x + 3y) + (a + b) (4x – 5y) can be factorized as:

a) (a + b) (2x + 3y + 4x – 5y)	b) (2x + 3y) (4x – 5y)
c) (a + b) (2x – 3y + 4x + 5y)	d) (a + b) (2x + 3y – 4x – 5y)

4. Which of the following shows binomial factorization?

a) xy + yz	b) p(p + q) + r(p + q)
c) 2x <sup>2</sup> + 3x	d) a² – b²

5. Factorization of (m - n) + 4(m - n) is:

a) (m – n) (4 – 1)	b) (m – n) (5)
c) (m – n) (4 + 1)	d) (m – n) (3)

### **B.** Write the Missing Terms to Complete the Sentences:

- 1. In binomial factorization, the common binomial expression is taken \_\_\_\_\_\_.
- 2. 2a(p + q) + 3b(p + q) = (\_\_\_\_\_) × (p + q)
- 3. In 5(x + y) + 7(x + y), the common factor is \_\_\_\_\_
- 4. If (a + b) is a common binomial factor, it is written \_\_\_\_\_\_ once

5. (x + 2) (p + q) + 3(p + q) = (\_\_\_\_\_\_ + 3) (p + q)

### C. Figure out the answers to these questions:

- 1. Factorize (x + y) + 5(x + y)
- 2. Factorize 3p(p-q) + 2(p-q)
- 3. Factorize (m + n) (2x + 3y) + (m + n) (5x 4y)
- 4. Find the common binomial factor and factorize 7(a + b) + 3(a + b)
- 5. Factorize (p + 2q) (r s) + 5(r s)

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

- If a binomial is common in all terms, we can factor it out.
  In binomial factorization, coefficients of binomials are added separately.
- 3. (a + b) (x + y) + (a + b) (y + z) can be factorized by taking (x + y) common.
- 4. (p + q) is a binomial.
- 5. In factorization, we always write the common binomial only once.

#### E. Challenge yourself with these questions:

- 1. Factorize (a + b) + 2(a + b).
- 2. Factorize 4p(p-q) + 5(p-q).
- 3. Factorize (m n) (2x 3y) + (m n) (4x + 5y).
- 4. Find the common binomial and factorize (x + 3y) + 7(x + 3y).
- 5. Factorize (a + 2b) (m n) + 3(m n).