

Factorization of Quadratic Trinomials

A. Choose the Correct Answer:

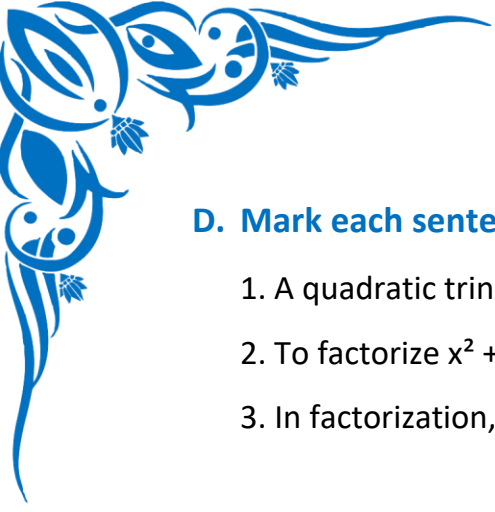
- The factorized form of $x^2 + 5x + 6$ is:**
 - $(x + 3)(x + 2)$
 - $(x - 3)(x + 2)$
 - $(x + 6)(x - 1)$
 - $(x + 2)(x - 2)$
- The factorized form of $x^2 - 7x + 10$ is:**
 - $(x - 5)(x + 2)$
 - $(x - 2)(x - 5)$
 - $(x + 5)(x + 2)$
 - $(x - 5)(x - 2)$
- Which pair of numbers multiplies to 12 and adds to 7?**
 - 3 and 4
 - 6 and 2
 - 1 and 12
 - 7 and 5
- The factorized form of $x^2 + 11x + 24$ is:**
 - $(x + 3)(x + 8)$
 - $(x + 4)(x + 6)$
 - $(x + 7)(x + 4)$
 - $(x + 2)(x + 12)$
- The quadratic trinomial $x^2 + 9x + 20$ factorizes to:**
 - $(x + 4)(x + 5)$
 - $(x - 4)(x - 5)$
 - $(x + 5)(x + 5)$
 - $(x + 2)(x + 10)$

B. Write the Missing Terms to Complete the Sentences:

- To factorize $x^2 + bx + c$, find two numbers whose _____ is b and _____ is c
- $x^2 + 6x + 9 = (x + \text{_____})(x + \text{_____})$
- $x^2 - 8x + 15 = (x - \text{_____})(x - \text{_____})$
- The middle term is obtained by _____ the two numbers
- Quadratic trinomials have _____ terms

C. Figure out the answers to these questions:

- Factorize $x^2 + 7x + 10$.
- Factorize $x^2 + 13x + 40$.
- Factorize $x^2 - 5x - 24$.
- Factorize $x^2 - 3x - 28$.
- Factorize $x^2 + 12x + 32$.



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

1. A quadratic trinomial has degree 2. _____
2. To factorize $x^2 + 5x + 6$, we need two numbers that add to 6. _____
3. In factorization, the product of the two numbers must equal the constant term. _____
4. $x^2 + 2x + 1 = (x + 1)(x + 1)$. _____
5. Quadratic trinomials cannot always be factorized. _____

E. Challenge yourself with these questions:

1. Factorize $x^2 + 10x + 21$.
2. Factorize $x^2 - 9x + 18$.
3. Factorize $x^2 + 14x + 45$.
4. Factorize $x^2 - 11x + 30$.
5. Factorize $x^2 + 5x - 24$.