

XBit Labs - Software Training Institute

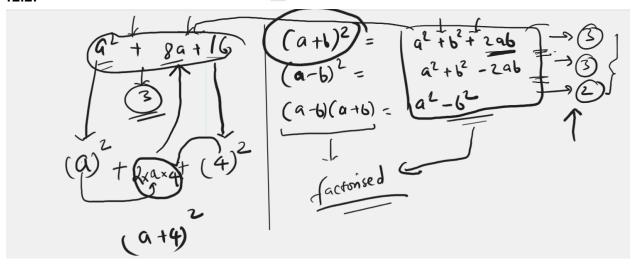
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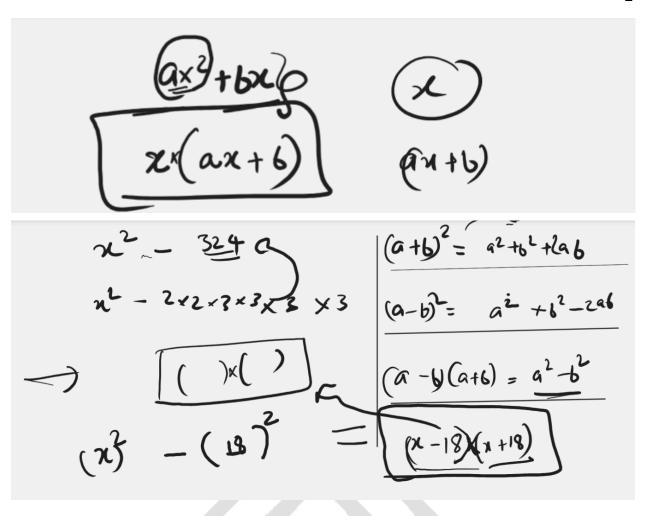
Live Training Sessions

Date :	Oct-26-2024	Board / STD	CBSE / 8
Subject :	Mathematics	Topic :	Factorization & Doubts for 12.2

Doubts:

12.2:





$$\frac{729 - 324n^{2}}{(27)^{2} - (18x)^{2}}$$

$$\frac{(27)^{2} - (18x)^{2}}{(27 + 18x)}$$

$$\frac{2n^{3}+2ny^{2}+2nz^{2}}{2n(n^{2}+y^{2}+z^{2})}$$

$$5y^{2} - 20y - 8z + 2yz$$

Factorization of Form $ax^2 + bx + c$ where a = 1:

To factor a quadratic expression of the form x^2+bx+c , we look for two numbers that:

- 1. Multiply to c (the constant term).
- 2. Add up to b (the coefficient of x).

The expression factors as:

$$x^{2} + bx + c = (x + m)(x + n)$$

where m and n are the numbers that satisfy the conditions above.

Steps to Factor $x^2 + bx + c$:

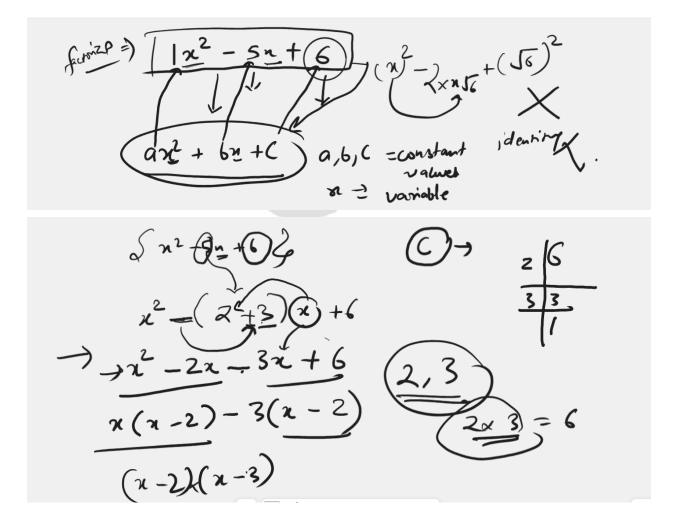
- 1. **Identify** b and c: Write down the values of b and c from the expression.
- 2. Find Two Numbers: Find two numbers m and n such that:
 - $m \times n = c$
 - m+n=b
- 3. Write in Factored Form: Once m and n are found, write the expression as (x+m)(x+n).

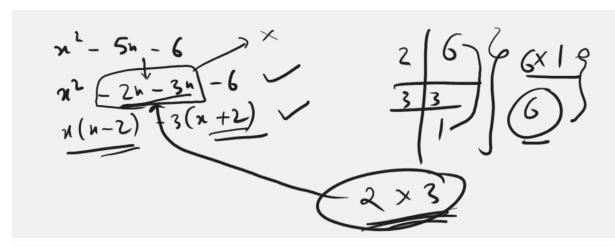
Example

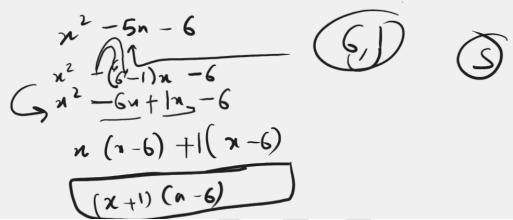
Factor $x^2 + 7x + 10$:

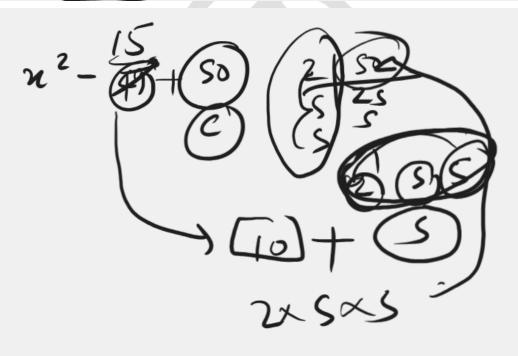
- 1. Here, b=7 and c=10.
- 2. Find two numbers that multiply to 10 and add up to 7:
 - The numbers 2 and 5 work, because $2 \times 5 = 10$ and 2 + 5 = 7.
- 3. Write the expression as:

$$x^2 + 7x + 10 = (x+2)(x+5)$$









END

