

FACTORING BY GROUPING

STEPS FOR FACTORING SUCCESS

★ Check For GCF ★

1. Split into 2 binomials
2. Factor out the GCF from each
3. GCFs form one new binomial
4. What is left forms other binomial

Final Answer

EXAMPLE 1:

$$8x^3 + 4x^2 + 10x + 5$$

$$(8x^3 + 4x^2) + (10x + 5)$$

$$4x^2(2x+1) + 5(2x+1)$$

$$(4x^2 + 5)(2x + 1)$$

Need to Match

EXAMPLE 2:

$$110x^3 + 77x^2 - 60x - 42$$

$$(110x^3 + 77x^2) + (-60x - 42)$$

$$11x^2(10x+7) - 6(10x+7)$$

$$(11x^2 - 6)(10x + 7)$$

EXAMPLE 3:

$$27x^3 + 9x^2 - 24x - 8$$

$$(27x^3 + 9x^2) + (-24x - 8)$$

$$9x^2(3x+1) - 8(3x+1)$$

$$(9x^2 - 8)(3x + 1)$$

EXAMPLE 4:

$$8x^3 + 12x^2 + 10x + 15$$

$$(8x^3 + 12x^2) + (10x + 15)$$

$$4x^2(2x+3) + 5(2x+3)$$

$$(4x^2 + 5)(2x + 3)$$