

Factoring Trinomials ($ax^2 + bx + c$)



LEVEL 1: The Basics (Easy)

All trinomials with $a \neq 1$. No negative signs or GCF needed.

❖ $2x^2 + 7x + 3$

❖ $3x^2 + 5x + 2$

❖ $4x^2 + 11x + 6$

❖ $5x^2 + 6x + 1$

❖ $3x^2 + 8x + 4$

❖ $2x^2 + 9x + 10$

❖ $6x^2 + 5x + 1$

❖ $7x^2 + 10x + 3$

❖ $3x^2 + 4x + 1$

❖ $5x^2 + 11x + 2$

❖ $2x^2 + 5x + 2$

❖ $3x^2 + 7x + 2$

❖ $4x^2 + 13x + 3$

❖ $6x^2 + 13x + 6$

❖ $5x^2 + 9x + 4$

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🔍 LEVEL 2: Dive Deeper (Mixed Signs, GCF)

❖ $3x^2 - 10x - 8$

❖ $2x^2 + 3x - 9$

❖ $5x^2 + 2x - 3$

❖ $4x^2 - x - 3$

❖ $6x^2 - 7x - 3$

❖ $2x^2 - 5x - 3$

❖ $2x^2 + 7x - 15$

❖ $-3x^2 + 2x + 8$

❖ $4x^2 + 9x - 10$

❖ $3x^2 - 14x - 5$

❖ $-2x^2 + 9x - 4$

❖ $6x^2 - 11x - 10$

❖ $-x^2 + 2x - 3$

❖ $5x^2 - 7x - 6$

❖ $3x^2 + 4x - 7$



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🧠 LEVEL 3: Mastering the Concept (Tougher or messy)

❖ $4x^2 + 4x - 3$

❖ $2x^2 - 7x + 6$

❖ $6x^2 + 17x + 5$

❖ $2x^2 - 3x - 9$

❖ $3x^2 - x - 10$

❖ $5x^2 - 9x - 2$

❖ $-3x^2 + 4x - 1$

❖ $7x^2 - 8x - 9$

❖ $6x^2 - 13x + 6$

❖ $4x^2 - 11x + 6$

❖ $2x^2 - 3x - 35$

❖ $8x^2 + 2x - 3$

❖ $9x^2 - 12x + 4$

❖ $10x^2 - 3x - 3$

❖ $3x^2 - 4x - 15$

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❖ Solve $3x^2 + 5x - 2 = 0$

❖ Solve $5x^2 - 7x - 6 = 0$

❖ Solve $2x^2 + 9x + 4 = 0$

❖ Solve $-3x^2 - 4x + 4 = 0$

Challenge Problem 1

Factor the following expression completely: $12x^4 + 2x^3 - 4x^2$.