

Examples:**Simplify:**

a. $(x + 3)(x - 5)$

b. $(4 - x)(x + 2)$

Simplify:

1. $(x + 4)(x - 5)$

2. $(x - 3)(x - 6)$

3. $(7 - x)(x + 1)$

I. Trinomial Factor Sign Patterns:

A. $x^2 + bx + c = (x + \underline{\quad})(x + \underline{\quad})$; factors of c that add to b

B. $x^2 + bx - c = (x + \underline{\quad})(x - \underline{\quad})$; factors of c that subtract to b

C. $x^2 - bx - c = (x - \underline{\quad})(x + \underline{\quad})$; factors of c that subtract to b

D. $x^2 - bx + c = (x - \underline{\quad})(x - \underline{\quad})$; factors of c that add to b

Examples:

Factor each trinomial.

a. $x^2 + 2x - 24$

b. $x^2 - 12x + 32$

c. $4x^2 + 21x + 5$

d. $4x^2 - 3x - 7$

Factor:

4. $x^2 + 13x + 40$

5. $x^2 + 10x + 9$

6. $x^2 + 11x + 28$

7. $x^2 + 11x + 24$

$$8. x^2 + 12x + 35$$

$$9. x^2 + 17x + 72$$

$$10. 2x^2 - 12x + 10$$

$$11. x^2 - 13x + 40$$

$$12. 3x^2 - 30x + 72$$

$$13. x^2 + 2x - 8$$

$$14. x^2 + 3x - 28$$

$$15. x^2 + 5x - 36$$

$$16. x^2 + 2x - 35$$

$$17. 4x^2 + 16x - 48$$

$$18. x^2 - 2x - 48$$

$$19. x^2 - 7x - 8$$

$$20. x^2 - x - 6$$

$$21. x^2 + x - 30$$

$$22. x^2 + 11x + 30$$

$$23. x^2 - 12x + 36$$