Name: Key Date: _____

Factoring Trinomials: ax^2+bx+c OR ax^2-bx+c

UNIT QUESTION: In what ways can algebraic methods be used in problems solving?

Sign Rule: When the last term is **POSITIVE**...

- The signs inside the parentheses will be the SAME as the **middle number's sign.**

Check to see...

What multiplies to give you the last number **AND** adds to give you the middle number?

Factor each trinomial:

1. x^2+7x+6

$(x+6)(x+1)$

2. $x^2+9x+14$

3. x^2-6x+8

$(x-4)(x-2)$

4. $x^2-10x+16$

5. $2x^2-16x+24$

$2(x^2-8x+12)$

$2(x-6)(x-2)$

6. $3x^2+36x+60$

7. $4x^2+24x+32$

$4(x^2+6x+8)$

$4(x+4)(x+2)$

8. $x^2+15x+14$

9. x^2+5x+4

$(x+4)(x+1)$

10. $x^2+9x+20$

11. $x^2-12x+20$

$(x-10)(x-2)$

Factoring Trinomials: $ax^2 + bx - c$ OR $ax^2 - bx - c$

Sign Rule: When the last term is **NEGATIVE**...
- The parentheses will have DIFFERENT signs.
- The larger factor will have the SAME sign as the number.

Check to see...
- What multiplies to give you the last number **AND** adds to give you the middle number?

Factor each polynomial completely:

12. $x^2 + 2x - 48$

13. $x^2 + 8x - 20$

$(x+10)(x-2)$

14. $x^2 - 4x - 21$

15. $x^2 - 9x - 36$

$(x-12)(x+3)$

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

17. $x^2 - 5x - 14$

$(x-7)(x+2)$

18. $x^2 - 5x - 24$

19. $x^2 + 5x - 14$

$(x+7)(x-2)$

20. $x^2 + x - 20$

21. $x^2 - 5x - 66$

$(x-11)(x+6)$