Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
WARM-UP	**Directions:** Simplify the following polynomials. • $(x+1)(x+5)$ = _____ = _____ • $(m-4)(m+6)$ = _____ = _____ • $(k-7)(k-3)$ = _____ = _____ Trinomials like these can be factored back into a product of binomials!
FACTORING TRINOMIALS *of the form* ⬇ $ax^2 + bx + c$	When "a" cannot be factored out by GCF, we can possibly still factor the trinomial. The steps below show a method called "X Factor Deluxe".
	Step 1: Fill in X-Factor Deluxe setup with ax, ac and b
	Step 2: Identify factors that multiply to equal ac that also add together to equal b
	Step 3: Place the factors in your t-chart. Simply both sides of the t-chart as fractions.
	Step 4: Enter your 2 simplified factors into 2 sets of parentheses. (Tip: use FOIL to confirm that your binomials produce the original equation)
	Example: $ax^2 + bx + c$ $1x^2 + 7x + 12$ Step 1: ax ax ac $1x$ $1x$ 12 7 $\cdot b$ Step 2: 1 12 12 2 6 3 4 7 Step 3: $1x$ $1x$ 3 4 Step 4: $(x+3)(x+4)$

SET 3	**9.** $a^2 - 2a - 3$	**10.** $x^2 - 7x - 30$
	11. $b^2 - 2b - 63$	**12.** $k^2 - 12k - 64$
SET 4	**13.** $x^2 - 11x + 24$	**14.** $x^2 - 14x + 49$
	15. $y^2 - 17y + 72$	**16.** $m^2 - 15m + 50$
MIXED PRACTICE	**17.** $a^2 + 6a - 16$	**18.** $x^2 - 14x - 72$
	19. $y^2 + 13y + 40$	**20.** $w^2 - 16w + 48$
	21. $n^2 - n - 30$	**22.** $k^2 + 13k + 42$

Directions: Look for a GCF first, then factor the remaining trinomial.

EXAMPLES WITH A GCF	**23.** $4k^2 + 12k + 8$	**24.** $2x^2 - 8x - 24$
	25. $3y^2 - 15y + 12$	**26.** $3a^3 + 30a^2 + 63a$
	27. $2b^2 + 10b + 12$	**28.** $5x^2y - 15xy - 140y$

Name: _____   **Unit 7:** Polynomials & Factoring

Date: _____ **Bell:** _____   **Homework 7:** Factoring Trinomials $(x^2 + bx + c)$

Directions: Factor each polynomial. Check your answers by FOIL.

1. $x^2 + 5x + 6$	**2.** $a^2 + 11a + 30$	**3.** $m^2 + 18m + 56$
4. $w^2 + 4w + 4$	**5.** $y^2 + 9y + 8$	**6.** $k^2 + 17k + 66$
7. $y^2 - 6y + 8$	**8.** $x^2 - 11x + 28$	**9.** $n^2 - n - 90$
10. $p^2 - 14p + 40$	**11.** $x^2 + 3x - 70$	**12.** $w^2 - 12w + 36$
13. $m^2 + 5m - 6$	**14.** $b^2 - 15b + 56$	**15.** $x^2 - 10x - 39$
16. $a^2 + 11a + 18$	**17.** $x^2 - 14x - 51$	**18.** $m^2 - 8m + 7$

Directions: Factor each polynomial. Look for a GCF first.

19. $2k^2 - 8k - 90$	**20.** $x^3 + 2x^2 - 48x$	**21.** $4w^2 - 52w - 120$
22. $2x^2 + 10x + 8$	**23.** $3y^2 + 24y + 48$	**24.** $5m^3 + 30m^2 - 35m$