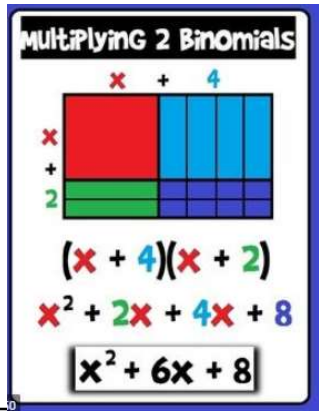|	
Name: Teacher: Subject: Algebra 1 Period: Week#1	NOTES: Complete all work on a separate sheet of paper. Include the heading provided on each page you turn in. SHOW ALL WORK.

Monday

Area Model ~ Box Method   Distribution Method

Multiplying 2 Binomials

$x + 4$

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

$x^2 + 2x + 4x + 8$

$x^2 + 6x + 8$

$$(x+2)(x+4) = x \bullet (x+4) + 2(x+4)$$
$$= x \bullet x + x \bullet 4 + 2 \bullet x + 2 \bullet 4 \quad \text{distribute}$$
$$= x^2 + 4x + 2x + 8 \quad \text{combine like terms}$$
$$= x^2 + 6x + 8 \quad \text{Answer}$$

Tuesday

Difference of Squares Pattern

The "difference of squares" pattern:

$$(a + b)(a - b) = a^2 - b^2$$

Expand the expression.
$$(c - 5)(c + 5)$$
$$= c(c) + c(5) - 5(c) - 5(5)$$
$$= c(c) + 5c - 5c - 5(5)$$
$$= c^2 - 25$$

Wednesday

Factoring GCF (Area Model + Algebraic Model)

Use the relationship of multiplication and factors to find the missing information.

Fill in the missing information for each: dimensions, area as product, and area as sum

1.
	x	6
2		

2(x+6)

2x+12

2.
5	5x	20

3.
		8
	6x	48

4.
	x	
	10x	30

• Always First step in factoring
• Reverse of distributive property

Example. Factor the gcf   gcf

$4x + 10 \longrightarrow 2(2x + 5)$ 2

$6x^2 + 3x \longrightarrow 3x(2x + 1)$ 3x

$x^3y^2 - xy \longrightarrow xy(x^2y - 1)$ xy

NOTE: need to know properties of exponents

Thursday

Factor. $\quad 2x^2 + 13x + 6$
A   B   C

Split the Middle

$2x^2 + 13x + 6$

$2x^2 + 1x + 12x + 6$

$x(2x+1) + 6(2x+1)$

$(x+6)(2x+1)$

mult.
A·C
12

1x × 12x

13
B
Add

12
1 + 12
2 + 6
3 + 4

Box

$2x^2 + 13x + 6$

	2x	1
x	$2x^2$	1x
6	12x	6

$(x+6)(2x+1)$