4.4A Mulitplying Binomials & Factoring Complex Trinomials

A. Multiplying Two Binomials using Box Method

Look for patterns!!!

1. $(3x+1)(2x+5)$

$= 6x^2+2x+15x+5$

$= 6x^2+17x+5$

	$3x$	1
$2x$	$6x^2$	$2x$
5	$15x$	5

2. $(5x+2)(3x+4)$

$= 15x^2+26x+8$

	$5x$	2
$3x$	$15x^2$	$6x$
4	$20x$	8

3. $(2x-1)(x+7)$

$= 2x^2+14x-x-7$

$= 2x^2+13x-7$

Look for patterns!!!

4. $(4x-5)(2x+1)$

$= 8x^2-6x-5$

	$4x$	-5
$2x$	$8x^2$	$-10x$
1	$4x$	-5

5. $(x-3)(3x+2)$

6. $(2x+3)(5x-2)$

7. $(3x-1)(5x-2)$

8. $(5x+3)(2x-5)$

Look for patterns!!!

9. $(3x-1)(x+3)$

10. $(5x+2)(x-3)$

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B. Factoring Complex Trinomials

**complex trinomials have a leading coefficient that is NOT ="1".

1. $3x^2 - 10x - 8$

M^{AC} -24
A -10
N $-12, 2$

$= (x-4)(3x+2)$

	x	-4
$3x$	$3x^2$	$-12x$
2	$2x$	-8

2. $10x^2 + 3x - 1$

$= (2x+1)(5x-1)$

M^{AC} -10
A 3
N $5, -2$

	$2x$	1
$5x$	$10x^2$	$5x$
-1	$-2x$	-1

Look for patterns!!!

3. $2x^2 + 7x + 3$

$= (2x+1)(x+3)$

	$2x$	1
x	$2x^2$	$1x$
3	$6x$	3

M^{AC} 6
A 7
N $1, 6$

4. $15x^2 - 11x + 2$

$= (3x-1)(5x-2)$

	$3x$	-1
$5x$	$15x^2$	$-5x$
-2	$-6x$	2

M^{AC} 30
A -11
N $-5, -6$

5. $10x^2 + 19x - 15$

$= (2x+5)(5x-3)$

	$2x$	5
$5x$	$10x^2$	$25x$
-3	$-6x$	-15

M^{AC} -150
A 19
N $25, -6$

6. $2x^2 - 3x + 1$

7. $14x^2 - 19x - 3$

Look for patterns!!!

8. $9x^2 - 24x + 16$

$= (3x-4)(3x-4)$

$= (3x-4)^2$

	$3x$	-4
$3x$	$9x^2$	$-12x$
-4	$-12x$	16

M^{AC} 144
A -24
N $-12, -12$

9. $3x^2 - 4x - 7$

10. $10x^2 + 3x - 1$

Look for patterns!!!

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