4.3 Mulitplying Binomials & Factoring Simple Trinomials

A. Multiplying Two Binomials using Box Method

Look for patterns!!!

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

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

$= x^2+6x+8$

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

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

$= x^2+3x+5x+15$

$= x^2+8x+15$

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

$= x^2-3x+2$

	x	-1
x	x^2	$-x$
-2	$-2x$	2

Look for patterns!!!

4. $(x-3)(x-4)$

$= x^2-4x-3x+12$

$= x^2-7x+12$

5. $(x+4)(x+6)$

6. $(x-2)(x+8)$

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

8. $(x+1)(x-2)$

Look for patterns!!!

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B. Factoring Simple Trinomials

**simple trinomials have a leading coefficient of "1".

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

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

	x	5
x	x^2	$5x$
3	$3x$	15

M^{AC} 15
A 8
N 5, 3

2. x^2+3x+2

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

	x	1
x	x^2	$1x$
2	$2x$	2

Look for patterns!!!

M^{AC} 2
A 3
N 1, 2

3. $x^2+2x-15$

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

M^{AC} -15
A 2
N

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

-15
1, 15
3, 5
-3 5

4. $x^2+4x-12$

$=(x-2)(x+6)$

M^{AC} -12
A 4
N -2, 6

5. $x^2-8x-20$

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

6. $x^2-2x-15$

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

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

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

Look for patterns!!!

8. x^2-4x-5

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

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

$=(x-4)(x-5)$

10. x^2-5x+4

$=(x-4)(x-1)$

Look for patterns!!!

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