

Notes 9-5

Factoring Trinomials of the Type $x^2 + bx + c$

Ex. 1: Factor $g^2 + 7g + 10$

• 10	+ 7
1 • 10	11
2 • 5	7

$$(g+2)(g+5)$$

can be $(g+5)(g+2)$
b/c of Commutative Property of Addition

Ex. 2: Factor $k^2 - 10k + 25$

• 25	- 10
-1 • -25	-26
-5 • -5	-10

$$(k-5)(k-5)$$

Ex. 3: Factor each expression.

a) $m^2 + 8m - 20$

• -20	+ 8
-1 • 20	19
1 • -20	-19
-2 • 10	8

$$(m-2)(m+10)$$

b) $p^2 - 3p - 40$

• -40	- 3
-1 • 40	39
1 • -40	-39
-2 • 20	18
2 • -20	-18
-4 • 10	6

• -40	- 3
4 • -10	-6
-5 • 8	3
5 • -8	-3

$$(p+5)(p-8)$$

Ex. 4: Factor $x^2 + 11xy + 24y^2$

• 24	+ 11
1 • 24	25
2 • 12	14
3 • 8	11

Method 1
Reverse Box

① Put in terms of trinomial

	x	$3y$
x	x^2	$3xy$
$8y$	$8xy$	$24y^2$

② use table to break up $11xy = 3xy + 8xy$

OR

Put each variable in the factors

$$① (x - y)(x - y)$$

$$② (x + 3y)(x + 8y)$$

Put in the numbers from the table

③ Find factors to make box work

$$(x+3y)(x+8y)$$