

# Factoring Trinomial $a \neq 1$ $ax^2 + bx + c$

\* AC Method - Magic #

\* Steps

① Check for GCF

② Find the Magic #

- First #  $\cdot$  Last # (A  $\cdot$  C)

③ What factors of my M# when added together = B?

④ Plug factors in

⑤ Group

①  $x^2 + 7x + 12$

M# : 12

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

$x(x+4) \quad 3(x+4)$

$(x+3)(x+4)$

②  $x^2 + 11x + 18$

$x^2 + 2x + 9x + 18$

$x(x+2) \quad 9(x+2)$

$(x+9)(x+2)$

$8 : \#M$

$8 + x^2 - 5x$  ③

$8 \quad 1$

$8 + x^2 - x^5 - 5x$

$4 - 5 -$

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

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

$21 : \#M$

$21 - 15 + 5$  ④

$5 - 21$

$21 - 15 - 15 + 5$

$(21+5)5 - (21+5)15$

$(21+5)(5-15)$

$08 : \#M$

$08 - 15 - 5$  ⑤

$8 + 01 -$

$4 + 3$

1 12

$(01+1)8 (01+1)12$

$(01+1)(8+12)$

$28 : \#M$

M# : 18

$29$

6 3

1 18

$(1-n)2 (1-n)18$

$(2+n)(1-n)$

$ax^2+bx+c = 0$  Factoring Trinomial  $a \neq 1$

# sign M - bottom CA \*

③  $x^2 - 6x + 8$

M# : 8

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

1 8

-2 -4

\* steps

$x(x-2) - 4(x-2)$

$(x-2)(x-4)$

① Check for GCF

② Find the Magic #

- First # \* Last #

④  $y^2 + 2y - 15$

M# : -15

$y^2 + 5y - 3y - 15$

+5 -3

$y(y+5) - 3(y+5)$

$(y-3)(y+5)$

= B

④ Find factors in group

③ Group

⑤  $t^2 - 7t - 30$

M# : -30

$t^2 - 10t + 3t - 30$

-10 +3

$t(t-10) + 3(t-10)$

$(t+3)(t-10)$

①  $x^2 + 7x + 15$

$x^2 + 4x + 3x + 15$

$(x+4)(x+3)$

$(x+4)(x+3)$

$(x+4)(x+3)$

⑥  $6n^2 - 12n - 210$

M# : -35

$6(n^2 - 2n - 35)$

-7 5

$n^2 - 7n + 5n - 35$

$n(n-7) + 5(n-7)$

$6(n-7)(n+5)$

②  $x^2 + 11x + 18$

$x^2 + 5x + 6x + 18$

$(x+5)(x+6)$

$(x+5)(x+6)$

$(x+5)(x+6)$