

Product Sum T method
 $ax^2 + bx + c$
 $x^2 + 2x + 1$

Target a.c	Factors	'b'
1	1 · 1	1

$(x^2 + 1x)(1x + 1)$

$(x)(x+1) + 1(x+1)$
 $(x+1)(x+1)$

$3x^2 + 16x - 35$

①

a.c	Factors	b
-105	XXXX	16
-105	21, -5	16

Product Sum T

$(3x^2 + 21x - 5x - 35)$
 $3x(x+7) - 5(x+7)$ grouping
 $(3x-5)(x+7)$

$4a^2 + a - 3$

①

a.c	Factors	b
-12		1
-12	-4, 3	-4
-12	-3, 4	1
-12	1	
-12	1, 12	
-12	6, 2	
-12	2, 6	

$(4a^2 + 4a - 3a - 3)$
 $4a(a+1) - 3(a+1)$
 $(4a-3)(a+1)$

$$(4a^2 - 3a)(4a - 3)$$

$$a(4a - 3) + 1(4a - 3)$$

$$(4a - 3)(a + 1)$$

$$4r^2 + 28r + 49$$

196	14.14	+28
-----	-------	-----

$$(4r^2 + 14r) + 14r + 49$$

$$(2r)(2r+7) + 7(2r+7)$$

$$(2r+7)(2r+7)$$

$$(2r+7)^2$$