Ex: $y = -3(x-4)(2x+3)$

$y = -3(2x^2 - 5x - 12)$

$y = -6x^2 + 15x + 36$

INTERCEPT → STANDARD

① multiply binomials

② distribute

Ex: $y = 3(x-5)^2 + 2$

$y = 3(x^2 - 10x + 25) + 2$

$y = 3x^2 - 30x + 75 + 2$

$y = 3x^2 - 30x + 77$

VERTEX → STANDARD

① square binomial

② distribute

③ C.L.T.

Ex: $y = 3x^2 - 12x - 15$

$y = 3(x^2 - 4x - 5)$

$y = 3(x-5)(x+1)$

STANDARD → INTERCEPT

① GCF (if possible)

② factor polynomial

Ex: $y = x^2 + 6x + 11$

$y = (x^2 + 6x + 9) + 11 - 9$

$y = (x+3)^2 + 2$

$y = 3x^2 - 12x + 1$

$y = 3(x^2 - 4x + 4) + 1 - 12$

$y = 3(x-2)^2 - 11$

STANDARD → VERTEX

① complete the square

② factor / C.L.T.

★ factor out "a" first