

The Factoring and Foil Cheat Sheet

The major Factoring Commandments:

1. Factor out common = $(2x^3 - 4x^2 - 16x) = 2x(x^2 - 2x - 8)$
2. Two terms - Difference of squares $(x^2 - 16)$ or $(x^4 - 36)$
3. Three Terms –
 - Trinomial square $(x^2 + 8x + 16)$ or $(x^2 - 8x + 16)$
 - $(ax^2 + bx + c) =$ Factor ac to get b then group
4. Four Terms - Group
5. Factor Completely
6. Multiply to check

Quadratic short cuts

1. $a^2 + ba + c = (a + \quad)(a + \quad)$ add c factors to get b
2. $a^2 - ba + c = (a - \quad)(a - \quad)$ add c factors to get b
3. $a^2 + ba - c = (a + \quad)(a - \quad)$
 - subtract c factors to get b , the larger c factor is positive
4. $a^2 - ba - c = (a + \quad)(a - \quad)$
 - subtract c factors to get b , the larger c factor is positive