Factoring ac Method

$ax^2 + bx + c; \quad a \neq 1$

Strategy

1. Find the product of ac
2. Find factors of ac whose sum is b
3. Rewrite trinomial as a polynomial with four terms using those factors
4. Group the first two terms and the last two terms and factor using D–Prop
5. Factor again using the D-Prop

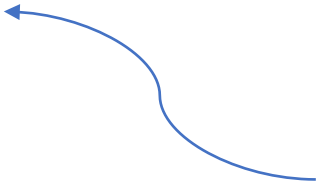
Example Factor $6x^2 + 17x + 12$

1. Mult ac; 6(12) = 72.
2. Factors of 72, sum = 17

   $6x^2 + 17x + 12$

3. $6x^2 + 9x + 8x + 12$
4. $6x^2 + 9x + 8x + 12$
5. $3x(2x + 3) + 4(2x + 3)$

   $(2x + 3)(3x + 4)$



72	
72	1
36	2
24	3
18	4
9	8
6	12

Factor

1. $6x^2 + 9x + 3$
2. $6x^2 + 19x + 10$
3. $12x^2 + 28x - 5$
4. $5x^2 + 58x - 24$
5. $4x^2 + 23x + 15$
6. $8x^2 + 14x + 5$
7. $12x^2 + 20x + 3$
8. $6x^2 - 5x - 21$
9. $5x^2 - 2x - 24$
10. $4x^2 - 7x - 15$