

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

Trial & Error

Procedure:

1. Find the factors of the leading coefficient, a
2. Find the factors of the constant, c
3. Use those factors in binomials and by Trial & Error find the sum of the linear term, b

1. $6x^2 + 9x + 3$

$8x^2 + 14x + 5$

2. $6x^2 + 19x + 10$

$12x^2 + 20x + 3$

3. $12x^2 + 28x - 5$

$6x^2 - 5x - 21$

4. $5x^2 + 58x - 24$

$5x^2 - 2x - 24$

5. $4x^2 + 23x + 15$

$4x^2 - 7x - 15$

Alternative to Trial & Error; $ax^2 + bx + c$, $a \neq 1$

Procedure:

- 1. Find the product of the leading coefficient, a, and the constant, c.**
- 2. Find the factors of ac whose sum is b.**
- 3. Rewrite the trinomial as a polynomial with 4 terms using those factors of ac**
- 4. Factor the polynomial by Grouping the first and second term and the third and fourth terms using the Distributive Property.**

6. $6x^2 + 9x + 3$

$8x^2 + 14x + 5$

7. $6x^2 + 19x + 10$

$12x^2 + 20x + 3$

8. $12x^2 + 28x - 5$

$6x^2 - 5x - 21$

9. $5x^2 + 58x - 24$

$5x^2 - 2x - 24$

10. $4x^2 + 23x + 15$

$4x^2 - 7x - 15$