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. $4x^2 + 23x + 15$ $4x^2 - 7x - 15$