THREE TERMS: When the leading coefficient of a quadratic = 1, follow these rules:

Example 1) $x^2 + 6x + 8$

Step 1: Draw a large X. →

Step 2: Put c in the top and b in the bottom.

Step 3: Fill in the sides with two numbers that **multiply** to the top and **add** to the bottom.

Step 4: Write the answers as binomials.

TWO TERMS → DIFFERENCE OF SQUARES

When there are two terms, both perfect squares, separated by a – sign, follow these rules:

Example 12) $x^2 - 25$

Step 1: Square root each term.

Step 2: Write 2 binomials with the square root of the first term in front and the square root of the last term in the back of each.

Step 3: Put a – sign in one binomial and a + sign in the other.

THREE TERMS: When the leading coefficient of a quadratic ≠ 1, follow these rules:

Example 1) $2x^2 + 9x + 7$

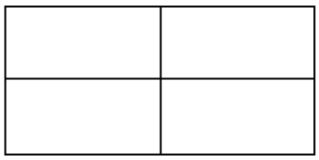
Step 1: Factor out any GCFs or negative a's from the trinomial before beginning.

Step 2: Draw a large X. →

Step 3: Put ac in the top and b in the bottom.

Step 4: Fill in the sides with two numbers that **multiply** to the top and **add** to the bottom.

Step 5: Draw a box with 4 squares and put the first term in the top left, the last term in the bottom right, and split the middle term into two terms with the numbers from the sides of the X as coefficients.



Step 6: Factor out the GCF's from each row and column.

Step 7: Write the GCFs on the outside of the box as binomials.