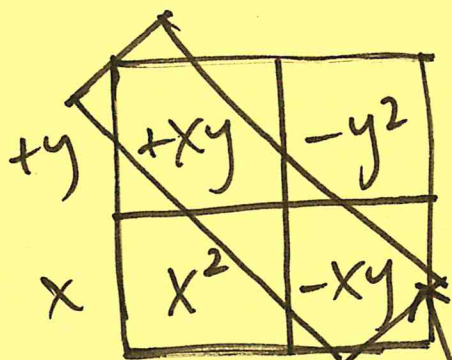
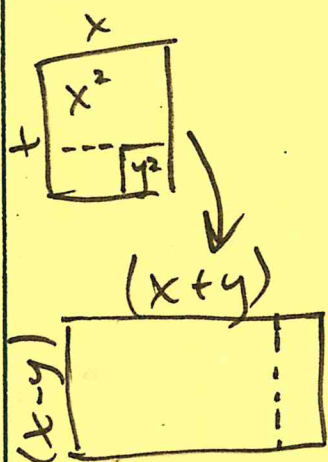


Special Case: Difference of Squares

$$x^2 - y^2 = (x+y)(x-y)$$

* Only works with subtraction of squares



$x - y$ the middle terms cancel out (they are opposite)

Example:

$$9x^2 - 16$$

$$(3x+4)(3x-4)$$

$$4x^2 - 49$$

$$(2x+7)(2x-7)$$

F.O.I.L. : First, outside, inside, last

* Special case: it only works for multiplying 2 binomials

Product Form:

$$(2x-1)(x+5)$$

Diagram illustrating the FOIL process with arrows:

- Red arrow (Outside): from $2x$ to 5
- Green arrow (Inside): from -1 to x
- Purple arrow (First): from $2x$ to x
- Purple arrow (Last): from -1 to 5

$$2x^2 + 10x - x - 5$$

First outside inside last

Sum Form: $2x^2 + 9x - 5$