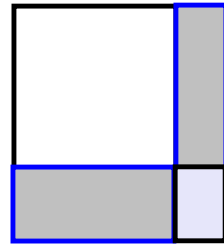


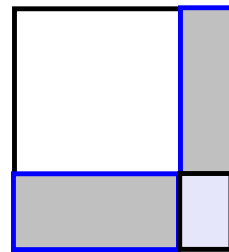
### 3.4 Modelling Trinomials as Binomial Products

\*If we want to multiply  $13 \times 17$  we can use a grid or area model to find the answer



\*How about if we want to multiply two binomials?

ex.  $(x + 3)(x + 7)$



\*Expand the following

a)  $(x + 2)(x + 6)$

b)  $(x - 2)(x + 6)$

c)  $(x + 2)(x - 6)$

c)  $(x - 2)(x - 6)$

What do we notice?

Using this property, could we turn a trinomial into the product of two binomials?

ex. a)  $x^2 + 7x + 12$

b)  $x^2 + 7x + 13$

c)  $x^2 + 5x + 6$

d)  $x^2 + x - 12$

e)  $x^2 - x - 12$

f)  $x^2 - x + 12$

*What could go in the missing spot to make the trinomial factorable?*

g)  $x^2 + ?x + 15$

h)  $x^2 + ?x + 12$

i)  $x^2 + 5x + ?$

j)  $x^2 - 3x + ?$

Algebra tiles can actually be useful! If we can arrange the tiles of a trinomial into a rectangle, the lengths of the rectangle are the factors of the trinomial. Remember these examples? Try using tiles to help find the answers.

$x^2 + 5x + 6$

$x^2 + ?x + 12$