



Completing the Square

- ◉ We can model a quadratic expression like this

$$x^2 + 4x + 4$$

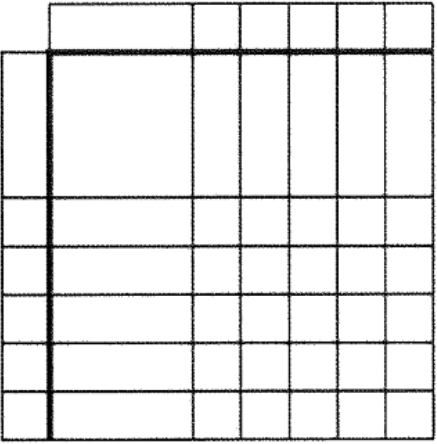
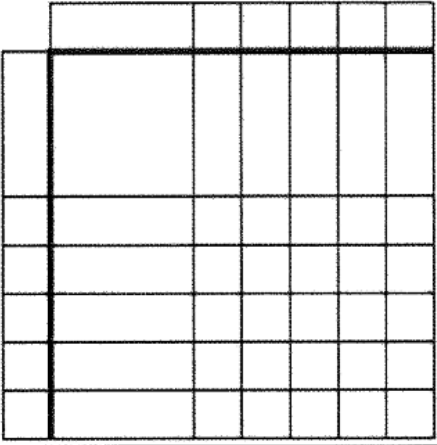
- ◉ with tiles like this...

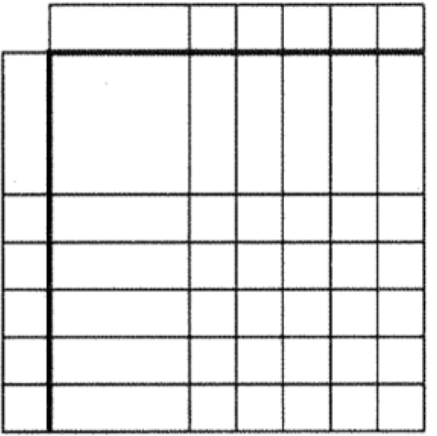
This is the x^2

rest here →

Split the x piece in 2 and put $1/2$ ← here

The constant (4) goes here

Expression	Picture	How many "ones" do you need to complete the square?	What perfect square does it make?
$x^2 + 2x + \square$			
$x^2 + 4x + \square$			

Expression	Picture	How many "ones" do you need to complete the square?	Perfect square
$x^2 + 6x + \square$			

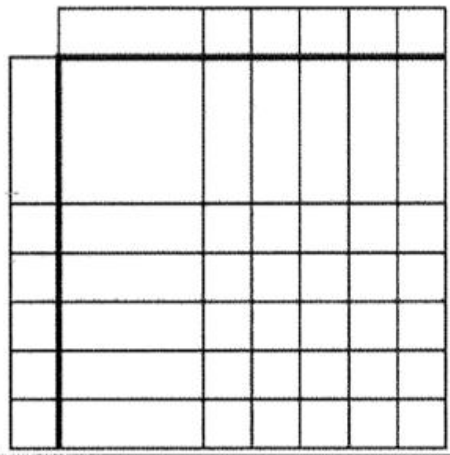
Expression

Picture

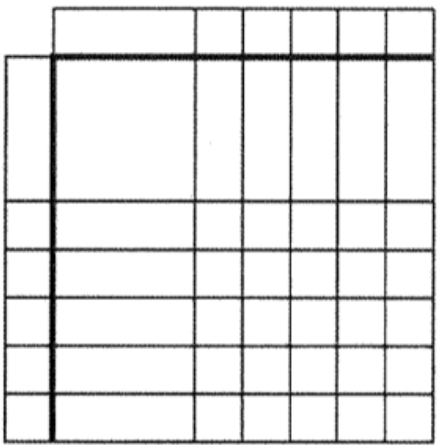
How many "ones" do you need to complete the square?

What perfect square does it make?

$X^2 + 8X + \square$



$X^2 + 10X + \square$



Complete the square

$X^2 + 12X + \square$

