

# AP 11 – Solve a system by elimination

European section, season 01

# The game

There are three type of coloured cards : green, yellow and blue.

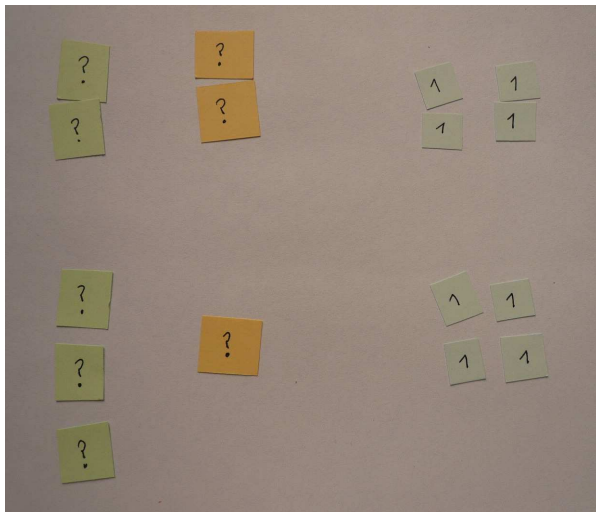
Each blue card has a value of 1, but the values of the green and yellow cards are unknown.

You have to find them by solving a system made of two sentences.

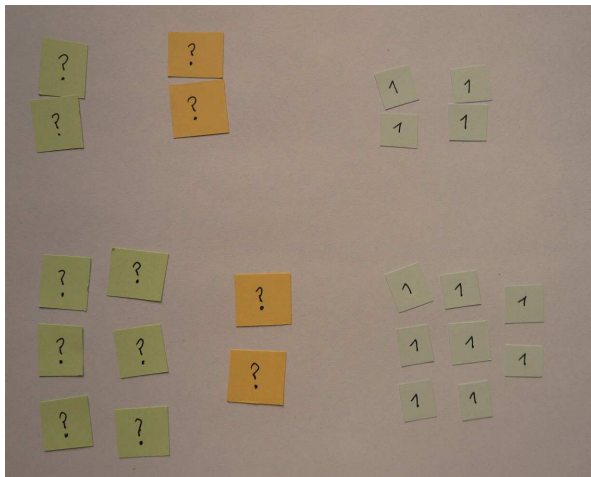
# An example

- { Two green cards and two yellow cards make four.
- { Three green cards and one yellow card make four.

# Step 1 : Set up the two equations.

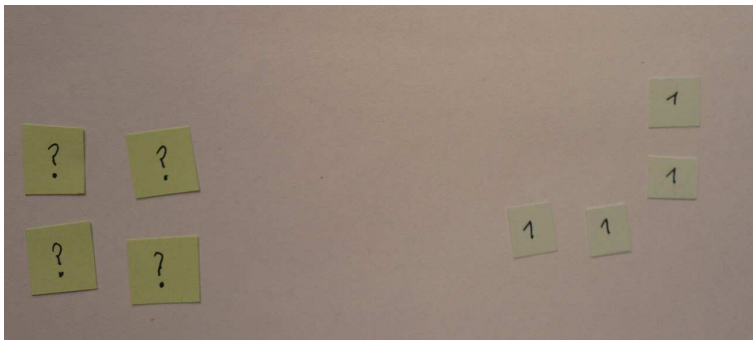


Step 2 : Multiply one equation so that the number of yellow (or green) cards are equal.

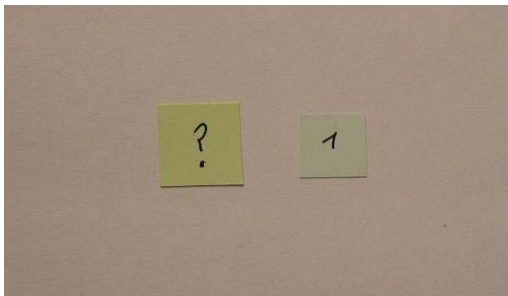


Note : You may need to multiply both equations.

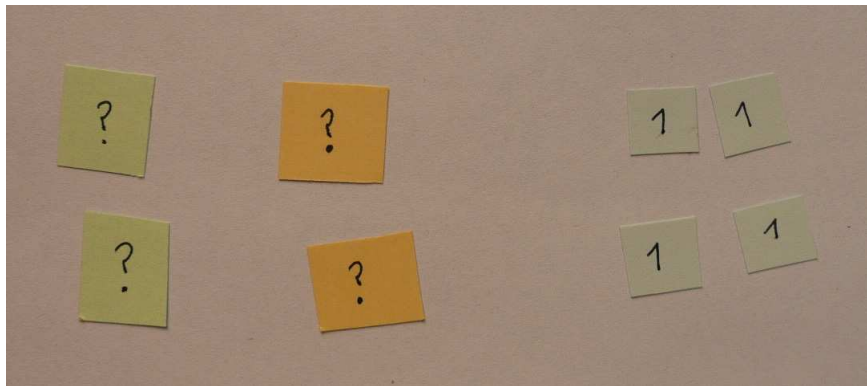
Step 3 : Take from each equation the number of green, yellow and blue cards there are in one of the equations.



## Step 4 : Deduce the value of the green card.

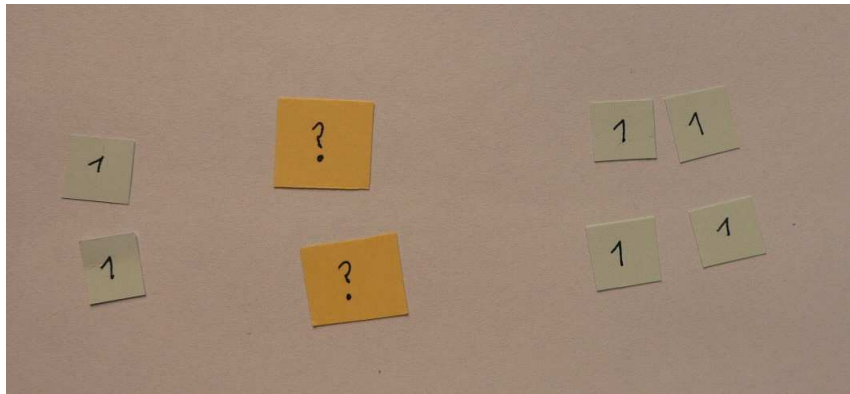


## Step 5 : Go back to the first equation.

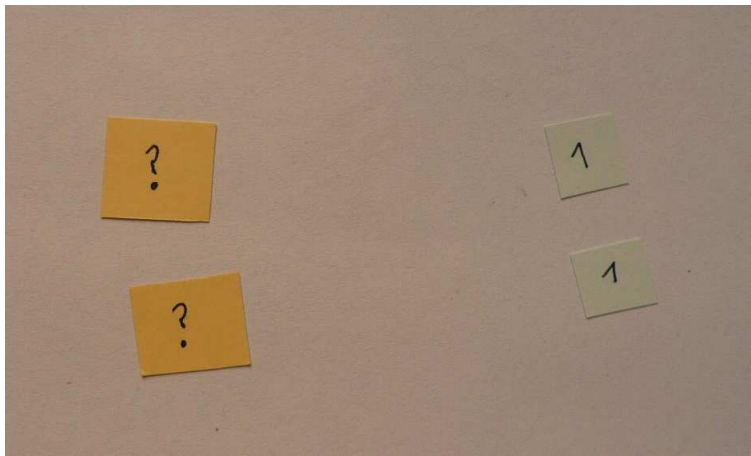




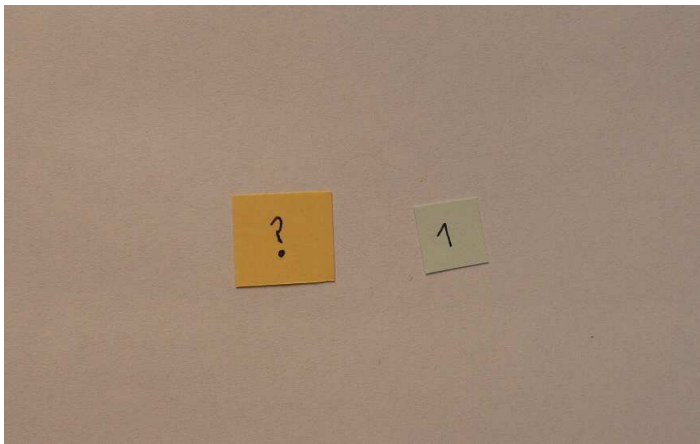
Step 6 : Replace each green card by the appropriate number of blue cards.



Step 7 : Subtract the same number of blue cards from both sides.



## Step 8 : Deduce the value of the yellow card.



## Step 9 : Conclude

The values of the green and yellow cards are both equal to 1.