MATHEMATICS ENRICHMENT CLUB.

on the other hand, the contestant rst picks a door with a goat, which happens with probability 2=3, then swapping guarantees the car, and staying guarantees a goat. All in all, swapping gives you the win 2 out 3 times while staying only 1 out of 3, so the better strategy is to swap when asked.

3. Clearly we cannot have 4 rows of 4 counters, as this means we have 16 on the grid, not 10. We cannot have 3 rows of 4 as this would mean the columns have 3 in them,

users with an odd number of friends and V_e the users with an even number. If user v has an even number of friends we write $v \in V_e$ (read as v is in V_e). Then

$$\sum_{v \in V_e} \underbrace{\text{degree}(v)}_{\text{an even number}}$$

For n = 2, $(2^3 \quad 7c_1^2) = 8 \quad 7 = 1$ and $(2c_2 + c_1)^2 = (\quad 2 + 1)^2 = 1.$ Now suppose it's true for n = k, then

$$(2c_{k+1} + c_k)^2 = (2(\quad c_k \quad c$$