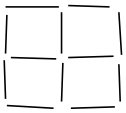
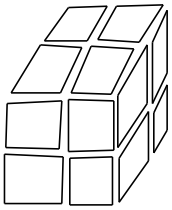
The problems are available at `http://jan.ucc.nau.edu/ns46/pow`. Paper copies are provided outside the Math Office: Room 107, Adel Mathematics Building. Contact Nándor Sieben (Adel 175) if you have any questions about the problems. Please submit your solutions to the Math Office by 8/31/09. Winning solutions and a summary of scores are at the POTW bulletin board in the Adel Math Building.

Research problems with unknown solutions are marked by (!). These problems might be hard or might be easy, we just do not know. A conjecture or a result about a special case or simply an idea about a possible solution method can be very valuable.

A sticky problem



a)



b)

a. Transform the four squares into three squares by changing the location of three sticks. There cannot be any leftovers.

b. Transform the eight cubes into six cubes by changing the location of ten faces. Again, leftovers are not allowed.

(!) c. What is the n-dimensional version of the problem?