

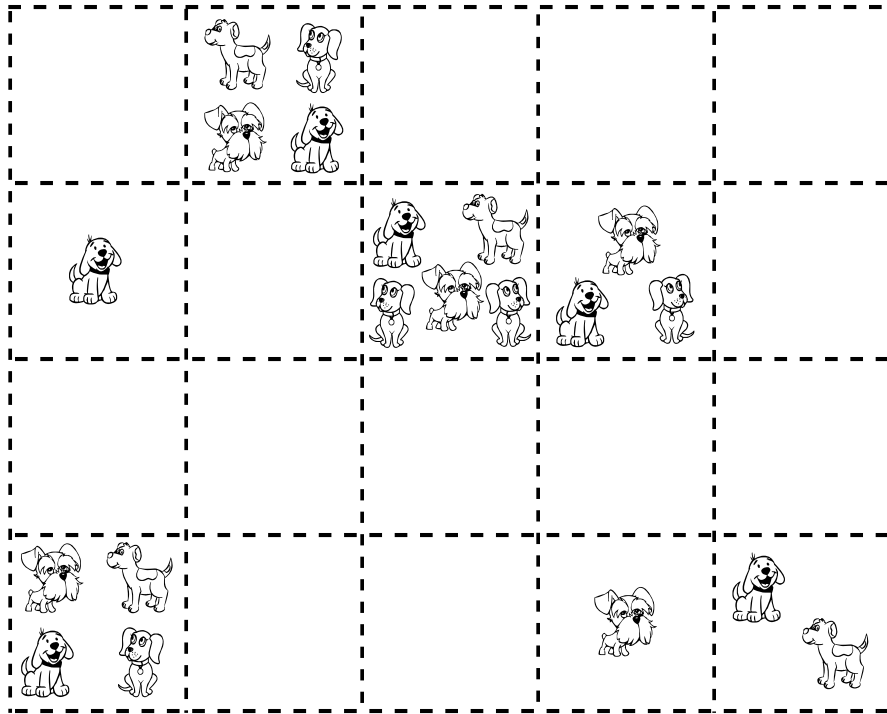


Problem of the Week

Problem B

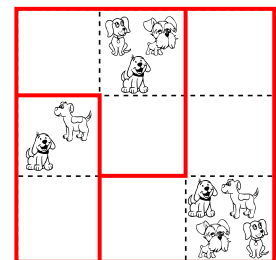
Crazy Grids

The grid below consists of four rows, each with five 1 by 1 squares. Seven of these squares contain groups of dogs. These dogs play nicely with other dogs in their own group, but do not play well with the dogs in other groups. You would like to separate the groups of dogs by putting up fences along some of the dashed gridlines.



- a) Find two ways to put up fences that would divide the grid into seven distinct regions, so that each region contains the same number of 1 by 1 squares as dogs.

An example of a different 3 by 3 grid divided into three such regions is shown to the right.



- b) Share your solutions with your classmates. Did they find solutions different from yours?
- c) Move the seven groups of dogs to different squares in the grid, and repeat part a) using your new grid. Did you find any arrangements for which there was NO solution?

Not printing this page? You can divide the grid on our [interactive worksheet](#).