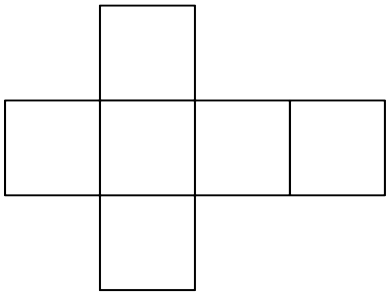
Problem of the Week
Problem A and Solution
Navid's Nets

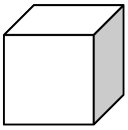
Problem

When Navid recycles boxes, he flattens them. Since he is learning about nets in school, he notices there are many different ways to flatten a cube-shaped box into a net.

A net is a pattern that can be cut out and then folded together to create a 3D shape. For example, consider the net shown.



When the net is folded together, it makes a cube.



Navid draws all the possible nets for a cube and finds that there are eleven different nets. Draw as many of the nets as you can. Can you draw them all?

Solution

The eleven possible nets for a cube are shown. Note that the nets are all considered different because for each net, flipping or rotating the net does not produce any of the other nets.