Math Challenge Problem
for early March, 2014

Quadrilaterally Intersecting Triangles

Consider a $4 \times 5$ rectangular grid of dots. If you pick three dots, they might or might not form a triangle. If you pick three more, those might or might not form a triangle as well. And if you happen to find two sets of three dots each of which form triangles, the intersection of those triangles might or might not form a quadrilateral (as they do in the picture above).

The Challenge: How many pairs of triangles (all vertices of which are dots in a given $4 \times 5$ grid) have a quadrilateral intersection?

Submit solutions to Ross 2239G or to oscar.levin@unco.edu by Friday, March 14.

WIN PRIZES!
A winner will be randomly selected from all correct answers received for each challenge problem to receive a fun math prize of his or her choice. Prizes include funky Rubik’s style cubes, math puzzle books, math games, even a math coloring book. So submit your answer TODAY!