

Problem 10: Tricky Thanksgiving Triples

USMA D/Math Problem of the Week

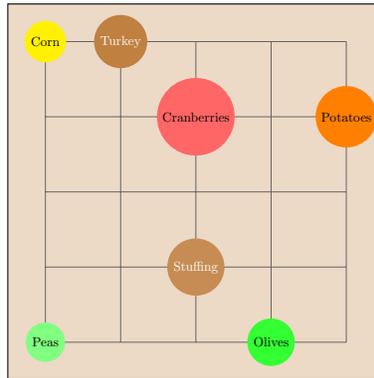
Submission Deadline: November 29, 2007 at 1600

Circle one: cadet faculty non-usma student non-usma faculty other

Problem Statement:

Every Thanksgiving my family adds more and more dishes to the table. Being a rather peculiar mathematician, I refuse to eat unless the dishes are all placed along the intersections of a grid and **no three dishes** are colinear, no matter whether the line is horizontal, vertical, or some kind of diagonal.

This year, I've drawn a grid on the table, and suggested the following layout of dishes:



Unfortunately, there's no room for dessert! Find a better arrangement of dishes (satisfying the rules above) allowing for as many desserts as possible to be placed on the table. What is the maximum number of dishes?

Submit your answer to Dr. Elisha Peterson at ae3263@usma.edu as an attachment to your email, with the subject line **WP POTW**. Or drop your solution off in my mailbox or on my desk (with date and time please!)