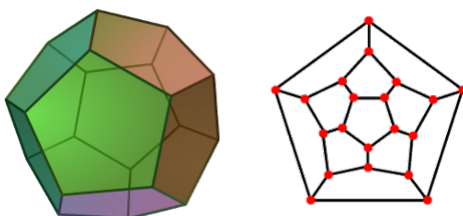


# MATH CHALLENGE PROBLEM

for early October 2015

## Arboreal ants avoiding alliteration



A colony of ants live on the surface of a dodecahedron (a regular convex polyhedron consisting of 12 regular pentagons connected at 20 vertices). They decide they would like to plant ant-trees on each of the 20 vertices. However, because these ants hate monotony, they insist that a different tree must be planted at each vertex surrounding a given face. Obviously they will need at least five different varieties of trees. Will they need more?

**The Challenge:** What is the fewest different varieties of tree the ants will need to plant one tree on each vertex so that no face is incident to two trees of the same variety?

Submit solutions to Ross 2239G or [oscar.levin@unco.edu](mailto:oscar.levin@unco.edu) by **Friday, October 16**.

The best solution will be announced at the following Math Club (Wednesdays at 4:30)  
and WIN A PRIZE!

Prizes include nifty Rubik's style puzzle cubes, math puzzle books, math games, even a math coloring book. So submit your answer TODAY!