

PROBLEM SET # 3
MATH 252

Due September 23.

1. Consider the action of the group A_5 on the faces of a dodecahedron. Decompose the corresponding representation of A_5 into a sum of irreducibles and solve the Venus problem by diagonalizing the intertwining operator.
2. Let D_n denote the dihedral group, which is the group of all symmetries of a regular n -gon. Classify irreducible representations of D_n over \mathbb{C} .