

MAT 145 HW3

Due on 02/14 right before the class starts.

Turn in solutions to **three** of the following problems which have been sorted roughly according to difficulty level. All problems are from the course textbook: *Combinatorics and Graph Theory, 2nd Edition* by Harris, Hirst and Mossinghoff

Difficulty 1: 2.6.5.1, 1.1.2.7

Difficulty 2: 2.6.2.9, 1.1.2.8, 1.1.2.13

Difficulty 3: 1.1.3.7

Extra 1: There are 6 people at a party. Prove that among them there is a group of three people such that either any two of them know each other, or any two of them do not know each other.