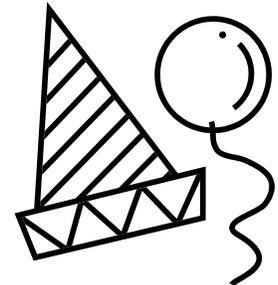# PROBLEM SET 3

1. Lydia and Ally each have a collection of marbles. Lydia claims that Ally has at least 24 marbles. Ally claims to have no more than 25 marbles. We know that Ally has twice as many marbles as Lydia and that both are telling the truth. How many marbles does each of Ally and Lydia have?

2. Brook is having a birthday party. Of any 25 guests he invited, at least one is a girl. Out of any 10 of them, at least one is a boy. How many boys and girls did Brook invite to the party?

3. While visiting the land of knights and knaves (where knights always tell the truth, and knaves always lie, and tourists can either lie or tell the truth), you happen upon a group playing Monopoly in the town square. While talking to the group, each member tells you that the group contains at least one liar. How many knights and knaves are playing monopoly?