Worksheet 2

1. Five couples want to play a Monopoly game. Assume there are exactly 10 distinct character counters: the car, the hat, the bag of money, ..., etc. In how many ways can the ten players choose a token to play as?

2. The five couples are going to play their game at a large circular table. In how many ways can the ten people arrange themselves at the table, ignoring rotations. That is, in how many distinct ways can the ten people arrange themselves where two arrangements are the same if for each person at the table the same person is sitting on their left (for example).

3. Now decide how many ways the five couples can sit at the round table if they all insist to sit opposite their 'spouse'.

4. How many words can you make using exactly the same letters as in the word APPLE, one A, two P's, one L, and one E?

5. How many words can you make using exactly the same letters as in the word MISSISSIPPI?

6. How many four letter words can you make using the letters in the word APPLE? You can use at most one A, at most two P's, at most one L, and at most one E.