Probability & Combination Problems

1. A gardener bought 5 geraniums, 3 rose bushes and 4 evergreen bushes from a nursery that had 14 geraniums, 12 rose bushes and only 5 evergreen bushes. How many choices did the gardener have?

2. In how many different ways could a team of 3 students be chosen from Julia's Data Management class of 25 students to compete in the County Mathematics Contest? In how many of these cases would Julia be a member of the team? In how many of these cases would Julia not be a team member?

3. A group of 10 children and 15 adults are at a picnic and 5 are chosen randomly to win a prize. Determine the number of ways that two adults and three children can each win a prize.

4. In Lotto 6/49, 6 numbers from 1 to 49 are randomly chosen through a draw. A 7^{th} number is picked as a bonus number.

   Create and complete the following table in excel.

Matching	# of Ways to Win	Probability of Winning	1 / Probability
6 OF 6			
5 OF 6 + B			
5 OF 6			
4 OF 6			
3 OF 6			
2 OF 6 + B			
2 OF 6			