Binomial Coefficient

Question 1)

A certain population consists of N=1000 people. 500 of them support party *A*; 300 of them support party *B*; and 200 support party *C*. A group of 4 people is chosen at random from the population. What is the probability that all persons in the group support

   a) party *A*
   b) party *B*
   c) party *C*

Question 2)

A class of *4n* children contains *2n* boys and *2n* girl. A group of *2n* children is chosen at random. What is the probability that the group contains an equal number of boys and girls?

For:

   a) *n=10*
   b) *n=50*

Question 3)

In a lottery game, the player picks 4 numbers from a sequence of 1 through 20. At lottery drawing, 4 balls are drawn at random from a box containing 20 balls numbered 1 through 20. What is the probability that the player will win the lottery (i.e. getting 4 matches in any order)?