Math 477, Lecture 1 class work

Name: _____

Net ID: _____

1. In a class with 5 boys and 5 girls, how many ways are there to pair up the boys and girls?

$$5!$$

2. In a class with 6 boys and 8 girls, how many ways are there to choose a team consisting of 3 boys and 3 girls?

$$\binom{6}{3}\binom{8}{3}$$

3. Given a class with 10 students, how many ways are there to distribute 5 identical balls to the class (students are allowed to receive more than 1 ball)?

$$\binom{14}{5}$$

4. Given a class with 10 students, how many ways are there to separate them into 5 groups consisting of 2 students each?

$$\frac{\binom{10}{2}\binom{8}{2}\binom{6}{2}\binom{4}{2}\binom{2}{2}}{5!}$$