State if each scenario involves a permutation or a combination. Then find the number of possibilities.

1) You are setting the combination on a four-digit lock. You want to use the numbers 1234 but don’t care what order they are in.

2) There are 60 athletes at a meeting. They each shake hands with everyone else. How many handshakes were there?

3) The batting order for seven players on a 9 person team.

4) There are 300 athletes at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

5) 5 out of 14 students will ride in a car instead of a van

6) Abhasra has homework in seven subjects. She is deciding what order to complete them in.

7) A team of 12 field hockey players needs to choose a captain and co-captain.

8) 5 out of 15 students will ride in a car instead of a van

9) Selecting which ten players will be in the batting order on a 12 person team.

10) There are 280 students at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

11) There are 15 applicants for two Computer Programmer positions.

12) There are 35 applicants for three Systems Engineer positions.

13) A group of 16 people need to take an elevator to the top floor. They will go in groups of eight. They are deciding who will take the elevator on its second trip.

14) Lea and Gabriella are planning trips to six countries this year. There are 10 countries they would like to visit. They are deciding which countries to skip.

15) The student body of 35 students wants to elect a president, vice president, secretary, and treasurer.

16) You are setting the combination on a five-digit lock. You want to use the numbers 10962 but don’t care what order they are in.

17) A team of 14 basketball players needs to choose a captain and co-captain.

18) A team of 17 softball players needs to choose three players to refill the water cooler.

19) Selecting which seven players will be in the batting order on a 11 person team.

20) There are 210 athletes at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?