Name_____

Permutations vs Combinations

Date_____ Period____

State if each scenario involves a permutation or a combination.

1) Mofor and Darryl are planning trips to ten countries this year. There are 14 countries they would like to visit. They are deciding which countries to skip.

2) A team of 13 basketball players needs to choose a captain and co-captain.

3) The batting order for ten players on a 11 person team.

4) A group of 35 people are going to run a race. The top 7 finishers advance to the finals.

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

5) Selecting which seven players will be in the batting order on a 8 person team.

6) There are 15 applicants for two Manager positions.

7) You are setting the combination on a five-digit lock. You want to use the numbers 62413 but don't care what order they are in.

8) 3 out of 15 students will ride in a car instead of a van

9) A team of 12 dodgeball players needs to choose a captain and co-captain.

10) There are 60 people at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

11) There are 30 students at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

12) Carlos has homework assignments in six subjects. He only has time to do four of them.

13) A group of 20 people are going to run a race. The top three runners earn gold, silver, and bronze medals.

14) There are 190 politicians at a meeting. They each shake hands with everyone else. How many handshakes were there?

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1) Mofor and Darryl are planning trips to ten countries this year. There are 14 countries they would like to visit. They are deciding which countries to skip.

Combination

2) A team of 13 basketball players needs to choose a captain and co-captain.

Permutation

3) The batting order for ten players on a 11 person team.

Permutation

4) A group of 35 people are going to run a race. The top 7 finishers advance to the finals.

Combination

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

5) Selecting which seven players will be in the batting order on a 8 person team.

Combination; 8

6) There are 15 applicants for two Manager positions.

Combination; 105

7) You are setting the combination on a five-digit lock. You want to use the numbers 62413 but don't care what order they are in.

Permutation; 120

8) 3 out of 15 students will ride in a car instead of a van

Combination; 455

9) A team of 12 dodgeball players needs to choose a captain and co-captain.

Permutation; 132

10) There are 60 people at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

Permutation; 3,540

11) There are 30 students at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

Permutation; 870

12) Carlos has homework assignments in six subjects. He only has time to do four of them.

Combination; 15

13) A group of 20 people are going to run a race. The top three runners earn gold, silver, and bronze medals.

Permutation; 6,840

14) There are 190 politicians at a meeting. They each shake hands with everyone else. How many handshakes were there?

Combination; 17,955