

Permutations vs Combinations

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.
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Combination

Permutation

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Permutation

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.
- 6) There are 15 applicants for two Manager positions.

Combination; 8

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

Permutation; 120

Combination; 455

- 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?

Permutation; 132

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

Permutation; 870

Combination; 15

- 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?

Permutation; 6,840

Combination; 17,955