

Unit 5 Assignment 1

Date _____

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

- 1) There are 40 applicants for two Software Tester positions.
- 2) 5 out of 15 students will ride in a car instead of a van
- 3) You are setting the combination on a three-digit lock. You want to use the numbers 624 but don't care what order they are in.
- 4) Mary and Jill are planning trips to three countries this year. There are 6 countries they would like to visit. They are deciding which countries to skip.
- 5) The batting order for eight players on a 12 person team.
- 6) The batting order for nine players on a 11 person team.
- 7) The student body of 155 students wants to elect a president and vice president.
- 8) The student body of 65 students wants to elect three representatives.
- 9) A group of 20 people are going to run a race. The top three runners earn gold, silver, and bronze medals.
- 10) You are setting the combination on a four-digit lock. You want to use the numbers 1096 but don't care what order they are in.
- 11) The batting order for ten players on a 11 person team.
- 12) Elisa and Mike are planning trips to eight countries this year. There are 12 countries they would like to visit. They are deciding which countries to skip.
- 13) A group of 20 people are going to run a race. The top three runners earn gold, silver, and bronze medals.
- 14) Castel has homework in seven subjects. He is deciding what order to complete them in.
- 15) Selecting which nine players will be in the batting order on a 11 person team.

Find the number of possibilities in each scenario.

- 16) 5 out of 8 students will ride in a car instead of a van
- 17) Selecting which eight players will be in the batting order on a 12 person team.
- 18) The batting order for nine players on a 11 person team.

19) There are 200 people at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?

20) There are 110 politicians at a meeting. They each shake hands with everyone else. How many handshakes were there?

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

21) A group of 20 people are going to run a race. The top 7 finishers advance to the finals.

22) A group of 20 people are going to run a race. The top 11 finishers advance to the finals.

23) The student body of 140 students wants to elect a president, vice president, and secretary.

24) There are 120 students at a meeting. They each shake hands with everyone else. How many handshakes were there?

25) A team of 16 softball players needs to choose three players to refill the water cooler.

Find the number of possibilities in each scenario.

26) A group of 30 people are going to run a race. The top 6 finishers advance to the finals.

27) The student body of 300 students wants to elect a president and vice president.

28) There are 130 people at a meeting. They each shake hands with everyone else. How many handshakes were there?

29) A team of 8 basketball players needs to choose two players to refill the water cooler.

30) Rob has homework in six subjects. He is deciding what order to complete them in.

31) The batting order for eight players on a 9 person team.

32) Gabriella has homework assignments in five subjects. She only has time to do three of them.

33) You are setting the combination on a three-digit lock. You want to use the numbers 381 but don't care what order they are in.

34) The batting order for eight players on a 11 person team.

35) Jessica and Shayna are planning trips to three countries this year. There are 13 countries they would like to visit. One trip will be one week long, another two days, and the other two weeks.