

Assignment: Permutation and Combination

Date _____

State if each scenario involves a permutation or a combination.

- 1) Selecting which seven players will be in the batting order on a 9 person team.
- 2) The student body of 175 students wants to elect two representatives.
- 3) There are 40 applicants for two jobs: computer programmer and software tester.
- 4) A team of 17 lacrosse players needs to choose a captain and co-captain.
- 5) The student body of 260 students wants to elect two representatives.
- 6) A group of 20 people are going to run a race. The top 6 finishers advance to the finals.

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

- 7) Pranav and Mofor are planning trips to six countries this year. There are 10 countries they would like to visit. They are deciding which countries to skip.
- 8) There are 10 applicants for two jobs: computer programmer and software tester.
- 9) There are 230 athletes at a meeting. They each give a Valentine's Day card to everyone else. How many cards were given?
- 10) 3 out of 15 students will ride in a car instead of a van
- 11) Jasmine and Kim are planning trips to three countries this year. There are 9 countries they would like to visit. One trip will be one week long, another two days, and the other two weeks.
- 12) A team of 13 basketball players needs to choose three players to refill the water cooler.

Find the number of possibilities in each scenario.

- 13) The student body of 35 students wants to elect four representatives.
- 14) Jenny and Maria are planning trips to three countries this year. There are 6 countries they would like to visit. One trip will be one week long, another two days, and the other two weeks.
- 15) There are 20 applicants for two jobs: computer programmer and software tester.
- 16) Elisa and Heather are planning trips to three countries this year. There are 15 countries they would like to visit. One trip will be one week long, another two days, and the other two weeks.

17) There are 50 students at a meeting. They each shake hands with everyone else. How many handshakes were there?

18) The student body of 265 students wants to elect a president and vice president.



Answers to Assignment: Permutation and Combination

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| 1) Combination | 2) Combination | 3) Permutation | 4) Permutation |
| 5) Combination | 6) Combination | 7) Combination; 210 | 8) Permutation; 90 |
| 9) Permutation; 52,670 | 10) Combination; 455 | 11) Permutation; 504 | |
| 12) Combination; 286 | 13) 52,360 | 14) 120 | 15) 380 |
| 16) 2,730 | 17) 1,225 | 18) 69,960 | |

