1. There are 6 people in a race. In how many ways can they finish first, second or third?

2. A golfer has 4 different hats, 3 gloves and 2 pairs of shoes to pick from for his round of golf. In how many ways can he make his choices?

3. Using the digits {0, 1, 2, 3, 4, 5}, how many positive three digit integers can be made if:
    a. There are NO restrictions

    b. It is odd and repetition is allowed?

4. How many positive even three-digit integers less than 400 can be formed from {0, 1, 2, 3, 4, 5} if:
    a. Repetition is allowed?

    b. No digit is repeated?

5. In how many ways can ALL of the letters of the word TRAVEL be arranged if:
    a. There are NO restrictions?

    b. It starts with a consonant and ends in a vowel?

6. In how many ways can ALL of the letters of the word SPORT be arranged if:
    a. The letters RT must stay together in that order?

    b. If RT can be written as TR as well?

7. You are ordering dinner at a restaurant. How many ways can you order a meal if you have two choices for a drink (coffee or tea), 3 main courses to choose from (chicken, beef, or fish) and two desserts (pie or cake)?

8. Eight sprinters are in the final of a race. How many different ways there to award the gold, silver and bronze medals?

9. Some license plates consist of 3 letters followed by 3 numbers. How many different license plates are possible if:

      a.   if the letters must be DIFFERENT

      b.   if the letters are different and the first digit can't be 0

10. How many two digit whole numbers can be formed using the digits: 0,1,2,4,6,7,8,9?

      a.   Repetitions are allowed

      b.   Repetitions are not allowed

11. In how many ways can all of the letters of the word PROBLEM be arranged if the arrangement must start with a consonant and end in a vowel?

12. How many ways can the letters in OBTUSE be ordered if all the vowels must be kept together?