



COMPLETE THE FUNDAMENTAL COUNTING PRINCIPLE PROBLEMS BELOW. CLICK ON THE BUTTON ABOVE OR SCAN THE QR CODE ABOVE TO WATCH A VIDEO THAT EXPLAINS THE SOLUTIONS TO THE PROBLEMS.

### **Fundamental Counting Principle Worksheet**

- 1) A customer can choose one of two amplifiers, one of four disc players, and one of six speaker models for an entertainment system. Determine the number of possible system configurations that contain one amplifier, one disc player, and one speaker model.
  
- 2) A college student is preparing a course schedule for the next semester. The student may select one of two mathematics courses, one of three science courses, and one of five English courses. How many different schedules are possible that contain one math course, one science course, and one English course?
  
- 3) In how many ways can a student answer a six – question true – false exam?
  
- 4) A combination lock will open when the right choice of three numbers (from 1 to 40, inclusive) is selected. If the same number can be used multiple times in the combination, how many different lock combinations are possible?
  
- 5) In a certain state the automobile license plates consist of two letters followed by a four – digit number. To avoid confusion between “O” and “zero” and “I” and “one,” the letters “O” and “I” are not used. How many distinct license plate numbers can be formed?

6) International calls require the use of a country code. Many country codes are 3 – digit numbers. Country codes do not begin with a 0 or a 1. There are no restrictions on the second and third digits. How many different 3 – digit country codes are possible?

7) Four people are lining up for a ride on a four – person sled, but only two of the four are willing to take the front position. After the first person sits down, anyone is willing to sit in the second, third, or fourth seat. With that constraint, in how many ways can the four people be seated on the sled?

8) Three couples have reserved seats in a given row for a concert. In how many different orders can they be seated if

a) there are no restrictions?

b) the two members of each couple wish to sit together?

FIND THE NUMBER OF DISTINGUISHABLE PERMUTATIONS OF THE LETTERS THAT FORM EACH WORD BELOW.

9) CHEESE

10) BILLIONAIRE