1) When a die is rolled twice, there are _____ possible outcomes.   1) _____
    A) 18   B) 720   C) 6   D) 36

2) A furniture manufacturer offers bookcases in 4 different sizes and 4 different colors. If   2) _____
   every color is available in every size, then the total number of different bookcases is
   _____.
    A) 16   B) 8   C) 32   D) 4

3) A business has seven locations to choose from and wishes to rank only the top three   3) _____
   locations. How many different ways can this be done?
    A) 5,040   B) 420   C) 210   D) 840

4) How many different ways can a teacher select 3 students from a class of 15 students to   4) _____
   each perform a different classroom task?
    A) 455   B) 45   C) 1320   D) 2730

5) How many different ways can a teacher select 4 students from a class of 17 students to   5) _____
   each perform the same classroom task?
    A) 57,120   B) 68   C) 17,160   D) 2380

6) If the letters A, B, C, D, E, and F are to be used in a five-letter code, how many different 6) _____
   codes are possible if repetitions are *not* permitted?
    A) 7,776   B) 1,296   C) 625   D) 720

7) The Foreign Language Club is showing a movie marathon of subtitled movies. How   7) _____
   many ways can they choose 5 from the 13 available?
    A) 154,440   B) 120   C) 1287   D) 1560

8) A researcher wishes her patients to try a new medicine for depression. How many   8) _____
   different ways can she select 5 patients from 45 patients?
    A) 120   B) 5400   C) 146,611,080   D) 1,221,759

9) How many ways can a student select five questions from an exam containing 12   9) _____
   questions, if one of the five must be the last question?
    A) 7920   B) 330   C) 95,040   D) 40,320

10) How many different ways can four people: Andy, Betty, Cindy, and Doug, sit in a row at   10) _____
    the opera if Andy and Betty must sit together?
    A) 12   B) 24   C) 6   D) 18

11) There are four instructors, nine assistant professors, and five associate professors in the Math department. A committee of five is selected to choose new textbooks. How many are there in which a committee can be selected, if there must be one instructor, two assistant professors, and two associate professors on the committee.

   A) 1,440   B) 95

12) *A known* soda brand comes in two varieties, regular and diet. If a researcher has 5 boxes of each, how many ways can he select 2 boxes of each for a quality control test?

   A) 100   B) 50   C) 49   D) 10

1) D
2) A
3) C
4) D
5) D
6) D
7) C
8) D
9) B
10) A
11) A
12) A