1. How many different ways can a city health department inspector visit 5 restaurants in a city with 10 restaurants?

2. How many different ways can 6 radio commercials be played during a 1-hour radio program?

3. How many 5-digit zip codes are possible if digits can be repeated?

4. How many 5-digit zip codes are possible if digits cannot be repeated?

5. How many different ways can 9 trophies be arranged on a shelf?

6. Ten students form a line to board a school bus. How many possible arrangements are there?

7. How many "words" using every letter can be formed from STATISTICS?

8. How many ways can a committee of 4 people be selected from a group of 10 people?

9. How many different ID cards can be made if there are 6 digits on a card and no digit can be used more than once?

10. Using the digits 2, 3, 5, 6, 8, how many three-digit numbers can be formed that are odd and greater than 500?

11. A license plate is formed of 3 digits followed by 2 letters. How many license plates are there?

12. The number of 3-letter arrangements you can create from 6 different letters.

13. How many ways can a person select 7 television commercials from 11 television commercials?

14. How many different ways are there to answer a 5 question multiple choice test if there are four choices for each question?

Find each probability. Write as a fraction and as a decimal to 3 significant digits.

15. New York Lotto: Select six winning numbers from 1, 2, 3,.....59.

16. Texas Cash Five: Select the five winning numbers from 1, 2, 3, ...37

17. A typical "combination" lock is opened with the correct sequence of three numbers between 0 and 49 inclusive. (A number can be used more than once). What is the probability of guessing those three numbers and opening the lock with the first try?

18. Suppose 15 NFL football games are played this week. What is the probability of randomly choosing the winner for each game? (Assume no ties are possible).

Answers: 3-7 Review

1. 30240
2. 720
3. 100000
4. 30240
5. 362880
6. 3628800
7. 50400
8. 210
9. 151200
10. 30
11. 676000
12. 120
13. 330
14. 1024
15. 1/45057474 = .0000000222
16. 1/435897 = .00000229
17. 1/125000 = .000008
18. 1/32768 = .0000305