6.3 Quick Notes

1) The Fundamental Principle of Counting – If we are making a series of decisions, each of which has a number of options, then the number of different ways that the decisions can be made is found by multiplying the numbers of options.

(BOARD EXAMPLE)

1) An ice cream stand has 4 different cones, 8 different flavors of ice cream, and 3 different toppings. If an ice cream cone consists of a cone, one flavor of ice cream, and one topping….

a) How many different ice cream cones are possible?

b) How many are possible if the customer has the choice of no topping?

2) A small license plate is being made, It will contain 5 characters (letter or digit) How many different plates are possible if….

a) all the characters are letters, repetitions are OK

b) all of the characters are letters, with no repetition

c) all of the characters are letters, repetitions are OK, but no letter can be written twice in a row.

d) the first 3 are letters, and the last 2 are digits.

e) same as d, but no repetition

3) A five question multiple choice quiz is handed out.
Each question can be answered A, B, C, or D.
a) How many different ways can the quiz be completed?
b) What if questions can be left blank?

4) In how many orders can 5 movies be seen. (once you watch a movie, it is already seen, you see a movie only once)