Introduction to Counting Methods (Section 12.1)

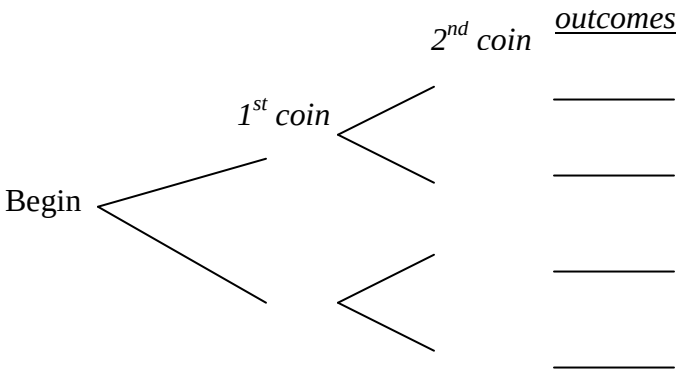
The objectives for this section include:

1. Count elements in a set systematically.
2. Use tree diagrams to represent counting situations graphically.
3. Apply Counting techniques to solve problems.

Class Practice

When counting the number of different outcomes for such experiments as flipping two coins a list is one way to determine the all the possibilities. Ex._____

Another way to generate that list is by using a tree diagram.



When counting the number of possible outcomes look carefully to determine if order is important and if replacement is allowed.

Class Practice - If you picking groups for a project and there are five people left (Andy, Bree, Cindy, Don, Elen) and you must select two how many ways can this be done?

Is this with or without replacement?

Class Practice – Use a tree diagram to list all the outcomes when a standard die is tossed and a coin is flipped. (Try having your tree grow downward.)

Complete **Quiz Yourself** (1) on p. 682

Class Practice – Given the set of digits {1, 3, 5, 6}

a. How many two-digit numbers can be formed *without* repetition?

b. How many two-digit numbers can be formed *with* repetition?

c. How many three-digit numbers can be formed *with* repetition?

d. How many three-digit numbers can be formed if the number must be even and no repetition of digits is allowed?

Class Practice – How many different license plates can be made if each license plate is to consist of three letters followed by two digits?

What is the # letters that can be used?_____

What is the # of digits that can be used?_____

Is this context is repetition allowed?_____

Complete **Quiz Yourself** (2) on p. 683

Class Practice – A combination lock has 0-39 on its dial.

a. How many combinations are possible with a three number code?

b. How many combinations are possible that start with a 5 on the three number code?

Complete **Quiz Yourself** (3) on p. 686

Assignment due Monday 3/1

Complete Logic Project

Read pp. 680-687, Finish Guided Notes pp. 46-48.

Complete 687-689 #3, 5, 8, 11-14, 19-23, 30, 33, 42, 53 on pp. 687-689

Complete the Section 12.1 Handout