Concept 1: Fundamental Counting Principle

If there are '*m*' ways to perform a task, and '*n*' ways to perform another, then, there are ***m x n*** ways of doing both of them. The Fundamental Counting Principle is the guiding rule for finding the number of ways to accomplish two or more tasks.

Example: If Mr. X has three shirts and two trousers, in how many different ways can he dress up?

In how many ways can he select a shirt? _____

In how many ways can he select a trouser? _____

In how many different ways can he dress up? _____

Drill 1

a. A shopping mall has 3 distinct glass doors and 2 distinct metal doors for entry and has 5 distinct glass doors and a wooden door for exit.

In how many ways can you enter the mall? _____

In how many ways can you leave the mall? _____

In total, how many ways can you enter and leave the mall?

_____

b. If there are three trains from A to B and 5 trains from B to C, in how many ways can one travel from A to C by train (assume there are no direct trains from A to C)? _____