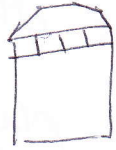


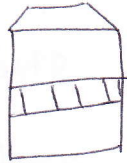
Permutations and Combinations

1) A 9th grade class at Manhattan High has 300 students. 10% of high school students in 9th grade play basketball, 10% play soccer and 20% play ice hockey. The school elections are coming up next month and 4 9th graders can be part of the student council. It has not been decided yet who will run for elections. In how many ways can the '9th grader student council team' be formed? In how many ways can the '9th grader ----' team be formed such that it has exactly one basketball player? Assume a person only plays one sport (or no sport).

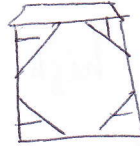
2) There are 5 cages for birds and there are 10 birds.



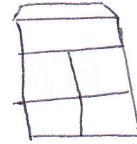
Cage 1



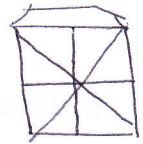
Cage 2



Cage 3



Cage 4



Cage 5



B1



B2



B3



B4



B5



B6



B7



B8



B9



B10

Only one bird will be put in a single cage. i.e. no cage will have more than one bird. These 5 cages have to be filled and put up for a bird sale. In how many ways can that be done?

3) At a high school prom dance there are 10 boys and 13 girls. How many different slow dance pairs can be formed over the 3 hour dance party?

4) There are 4 kids at a birthday party.

They are going to eat pizza today. The pizza they got has eight slices. Each kid will eat two slices. In how many different ways can the 4 kids eat 2 slices each from the box of pizza containing eight slices?