

# MACM day 2 Basic Counting Principles

## Summary

If you choose something or another thing how have (something + another thing) choices. If you choose both, you multiply both choices. If you have a permutation with repeating elements, you need to get rid of some of those repeats. This is done by dividing by how many repeats ! because the repeats will have repeats ! combinations within itself.

## Rule of Sum

To perform either of the task, it is done  $m+n$  way

## Rule of product

To perform both of the task, it is done  $m*n$  way

## Permutations with repetition

$(n/(k_1, k_2, \dots, k_n))$