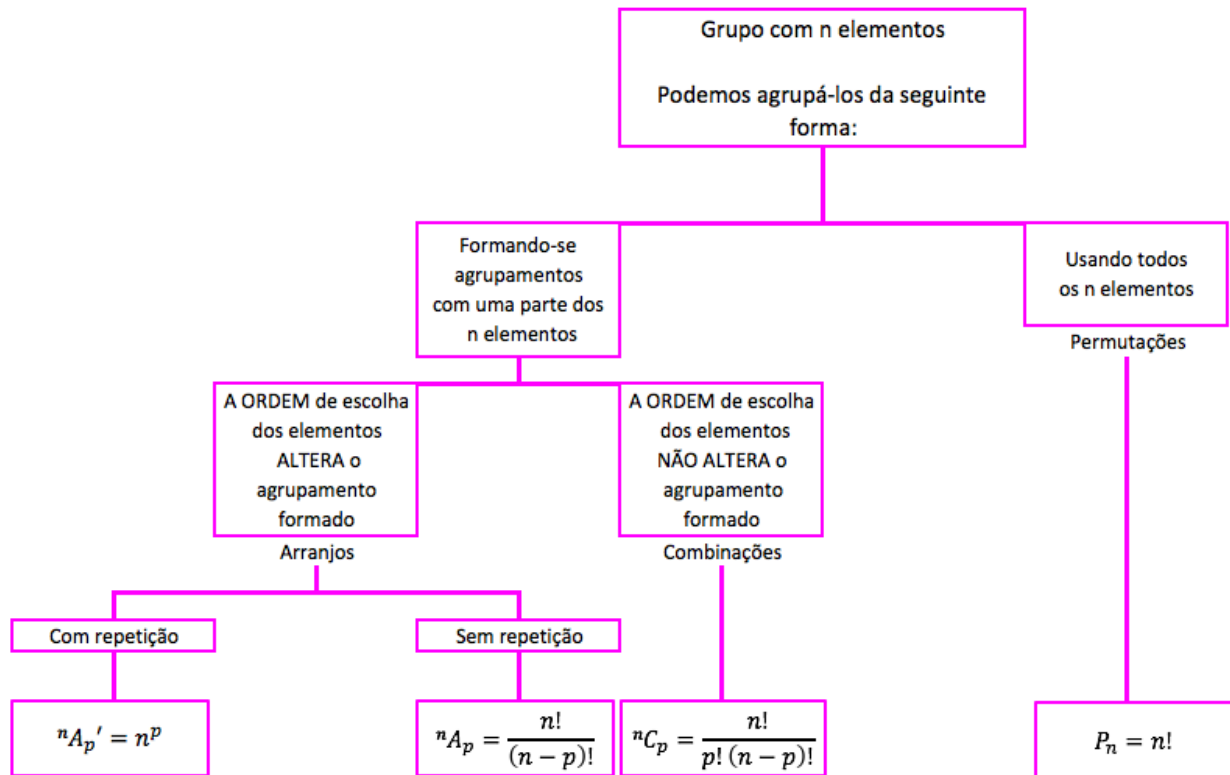


## Análise combinatória



## Triângulo de Pascal

Linha 0	$C_0^0$		
Linha 1	$C_0^1$	$C_1^1$	
Linha 2	$C_0^2$	$C_1^2$	$C_2^2$

**Propriedades do triângulo de Pascal**

- $C_0^n = C_n^n = 1 \quad n \in \mathbb{N}_0$
- $C_p^n = C_{n-p}^n \quad n, p \in \mathbb{N}_0 \text{ e } p \leq n$
- $C_p^n + C_{n+p}^n = C_{p+1}^{n+1} \quad n, p \in \mathbb{N}_0 \text{ e } p \leq n$
- $C_0^n + C_1^n + C_2^n + \dots + C_n^n = 2^n \quad n \in \mathbb{N}_0$

**Binómio de Newton**

$$(a + b)^n = C_0^n a^n + C_1^n a^{n-1} b + \dots + C_{n-1}^n a b^{n-1} + C_n^n b^n, \quad n \in \mathbb{N}_0$$

Nota

► Termo de ordem  $p + 1$  :  $T_{p+1}^n = C_p^n a^{n-p} b^p, \quad 0 \leq p \leq n$