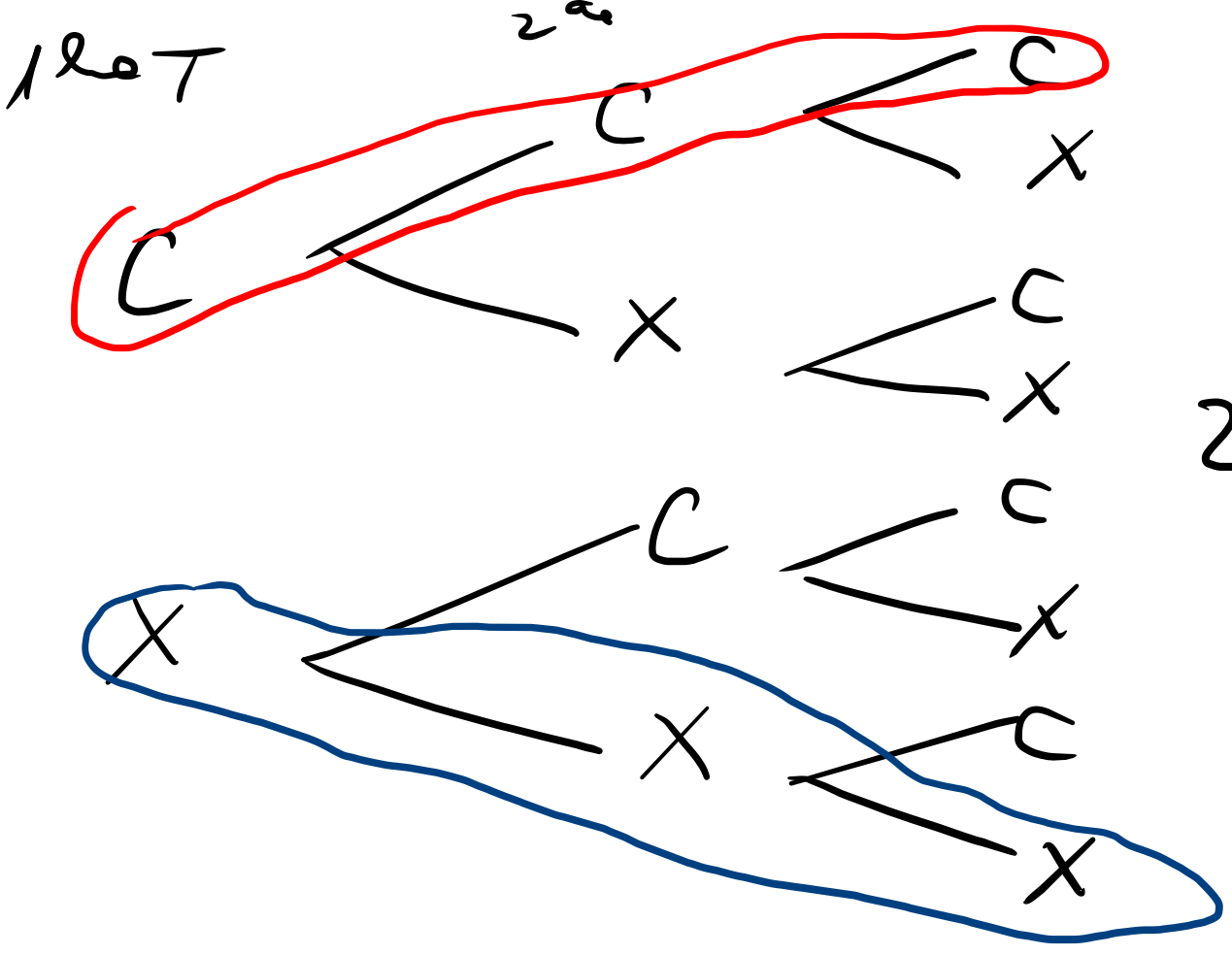


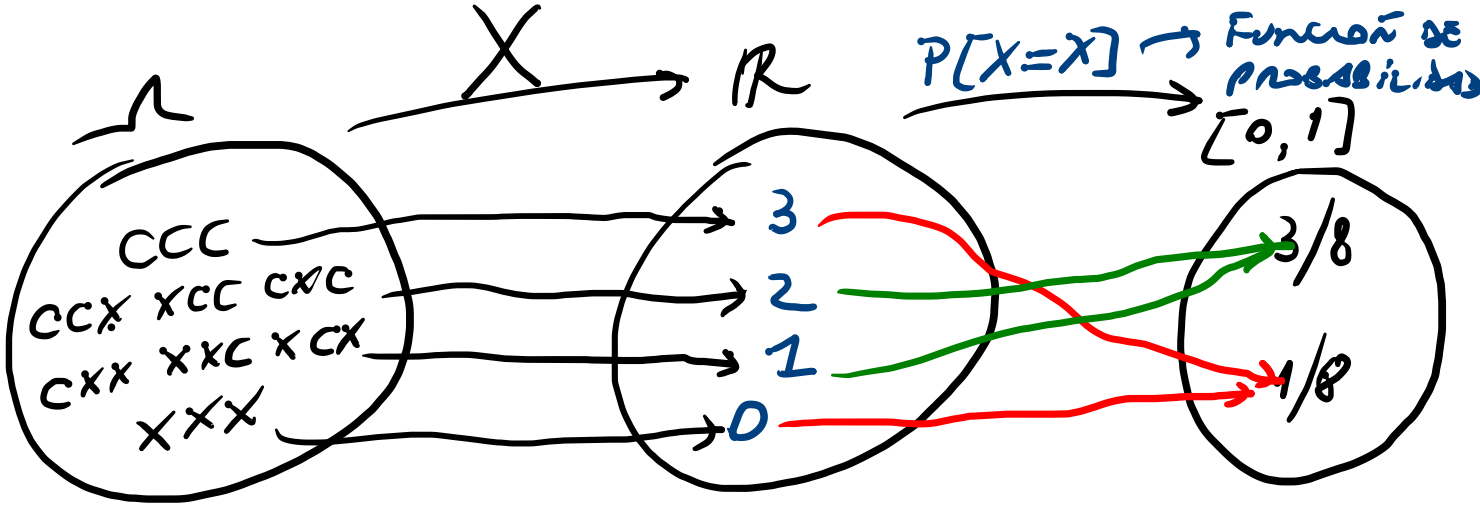
$2^3 = 8$

$\{ccc, ccx, xcc, cxc, cxx, xcx, xxc, xxx\}$

Ω

$X = \#$ de cas ....

$\Omega(X) = \{0, 1, 2, 3\}$



X ES UNA VARIABLE ALEATORIA

$X : \Omega \rightarrow \mathbb{R}$

$P[X=x] : \mathbb{R} \rightarrow [0,1]$

2 condicions:

1) Condició de certesa

$$\sum_{\forall x} P[X = x] = 1 \rightarrow \text{exhaustivitat}$$

2) condició de no negativitat

$$P[X = x] \geq 0 \quad \forall x \qquad \left.\begin{array}{l} \\ \\ \end{array}\right\} P(\phi) = 0$$

VA DISCRETAS → Ω → FINITO
                  → INFINITO NUMERABLE

↳ "CONTEO"

↑ DISCRETIZACIÓN → AID

VA CONTINUAS → Ω → INFINITO NO NUMERABLE

↳ MAGNITUD

VA MIXTAS → COMBINACIÓN DE AMBAS

X	$P[X=x]$	$F[X=x]$
0	0,10	0,10
1	0,20	0,30
2	0,30	0,60
3	0,10	0,70
4	0,15	0,85
5	0,15	1
	1	

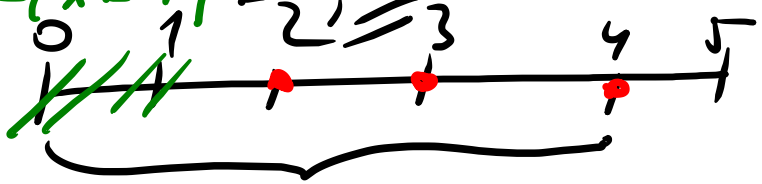
$$P[2 \le X \le 4]$$

(a)

$$= P[X=2] + P[X=3] + P[X=4]$$

$$= 0,30 + 0,10 + 0,15 = 0,55$$

$$F[X=1] = 0,30$$

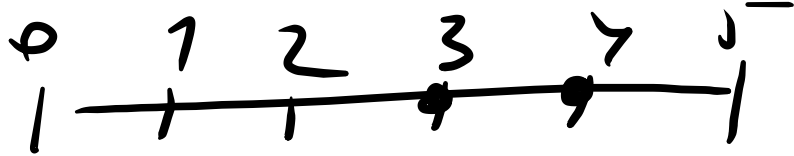


$$F[X=4] = 0,85$$

$$F[X=4] - F[X=1]$$

$$P[2 < X \leq 4]$$

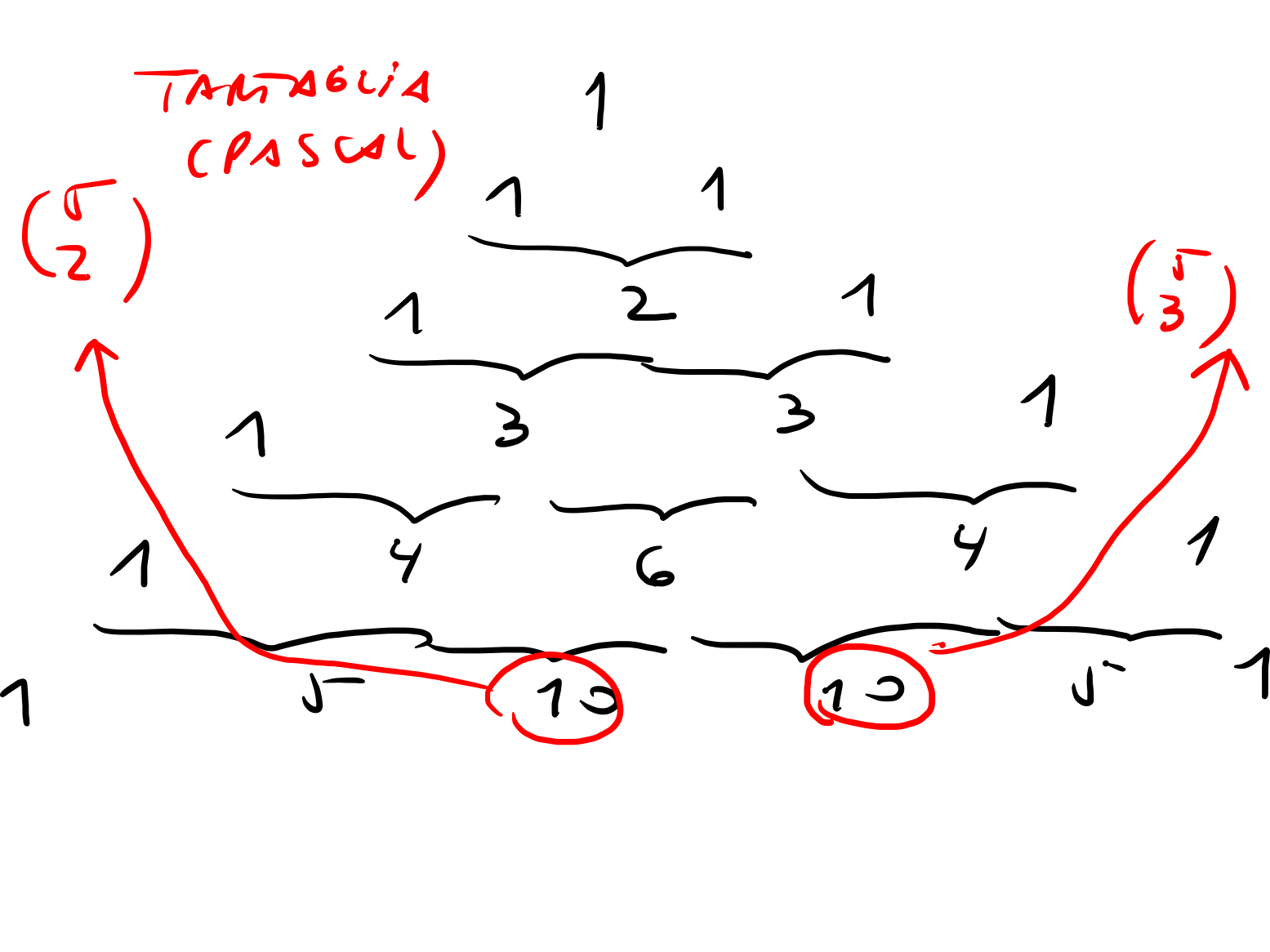
$$= P[3 \leq X \leq 4]$$



$$\sigma_x^2 = \sum_{i=1}^{n} \frac{(x_i - \bar{x})^2 f_i}{n} = \underbrace{\frac{\sum x_i^2 f_i}{n}}_{m_2} - \underbrace{\bar{x}^2}_{m_1^2}$$

$$Var(x) = E(x^2) - \left(E(x)\right)^2$$

$\bar{x}$ (muestral) $\longrightarrow$ $E(x)$ (población)


TARTAGLIA
(PASCAL)
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
$\binom{5}{2}$
$\binom{5}{3}$