Espérance mathématique

On tire 3 cartes d'un jeu de 36.

$\boxed{C_3^{36} = \# U}$ 7140

$p(1V) = \dfrac{C_1^4 \cdot C_2^{32}}{C_3^{36}} = \dfrac{4 \cdot 16 \cdot 31}{7140} = \dfrac{1984}{7140}$

exact.

x_i	f_i
	1

$\bar{x} = \sum f_i x_i$

VARIABLE ALÉATOIRE : X désigne le nombre de valets dans mon jeu de 3 cartes

X	0	1	2	3	
p(X)	0,695	0,278	0,027	0,0005	$\sum p(x) = 1$

$p(X = 1)$

$p(0V) = \dfrac{C_3^{32}}{C_3^{36}}$

$p(2V) = \dfrac{C_2^4 \cdot C_1^{32}}{C_3^{36}}$

$p(1V)$ ✓

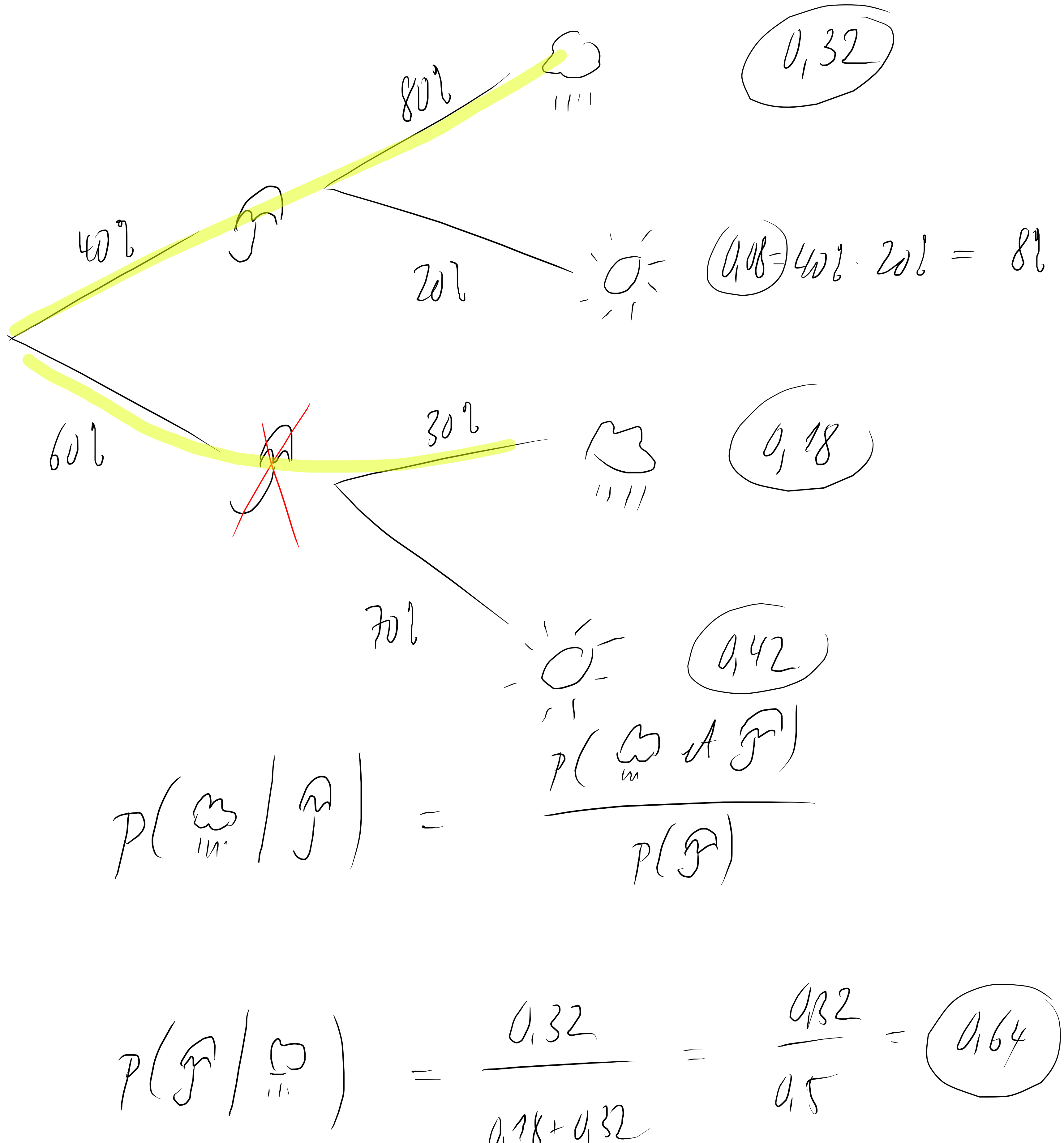
$p(3V) = \dfrac{C_3^4}{C_3^{36}}$

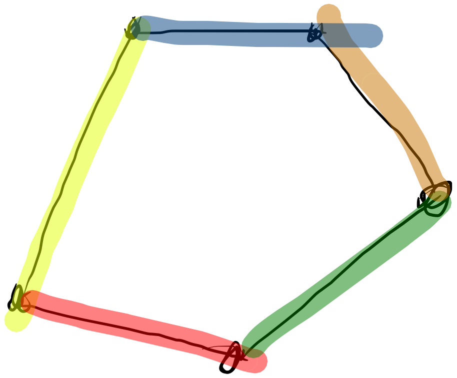
Espérance de X

$\boxed{E(X)} = \sum p(x) \cdot x = 0,695 \cdot 0 + 0,278 \cdot 1 + 0,027 \cdot 2 + 0,0005 \cdot 3$

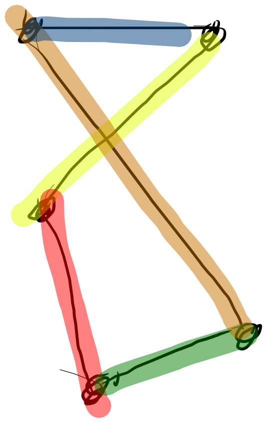
$= 0,278 + 0,054 + 0,0015$

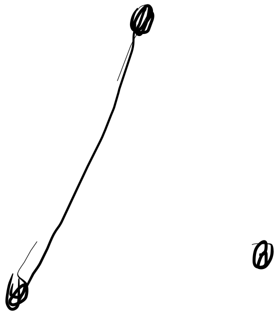
$= 0,3315$


80%
0,32
40%
20%
0,08 = 40% · 20% = 8%
60%
30%
0,18
70%
0,42
P(∧)
P(|) =
P( )
P(|) = 0,32 / 0,18+0,32 = 0,32 / 0,5 = 0,64

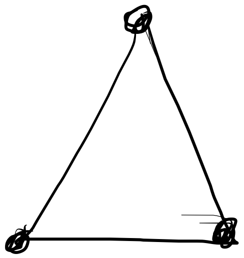


$\simeq$





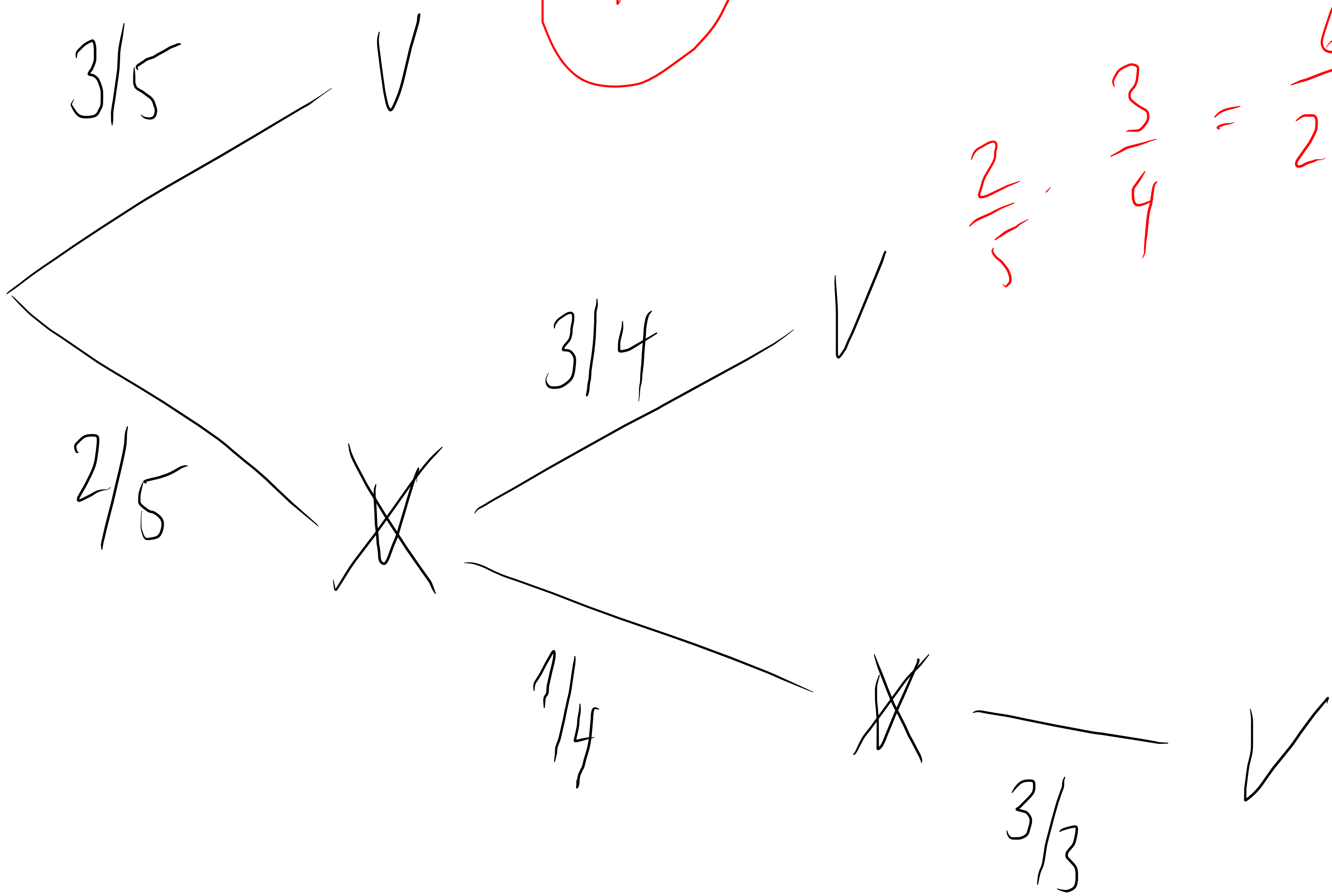
$\neq$



$\boxed{4.39}$

3V 1R 1B

$\frac{3}{5}$



$\frac{2}{5} \cdot \frac{3}{4} = \frac{6}{20} = \frac{3}{10}$

$\frac{2}{5} \cdot \frac{1}{4} = \frac{2}{20} = \frac{1}{10}$