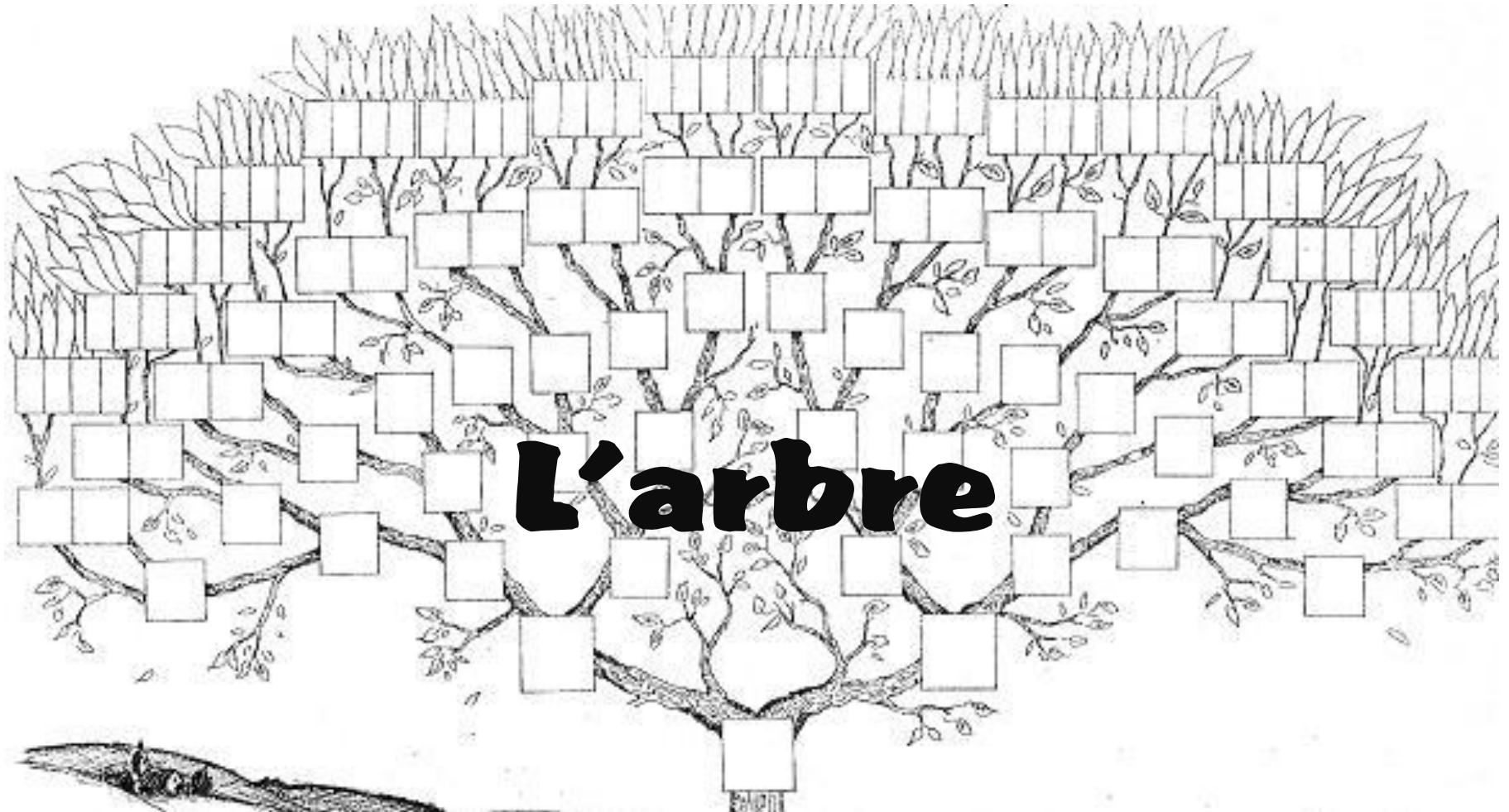
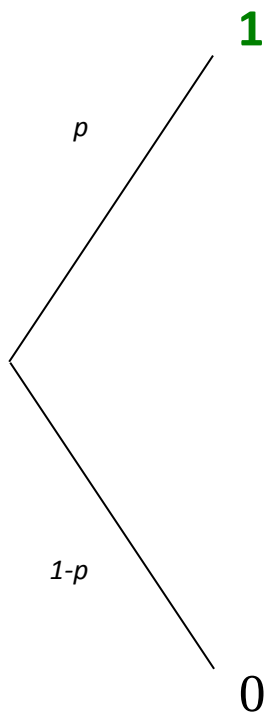


La loi binomiale

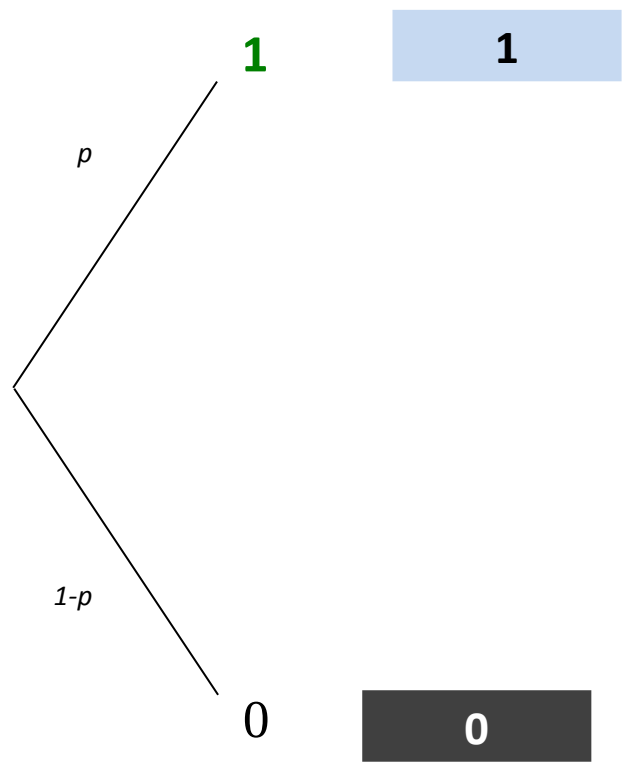
La loi binomiale



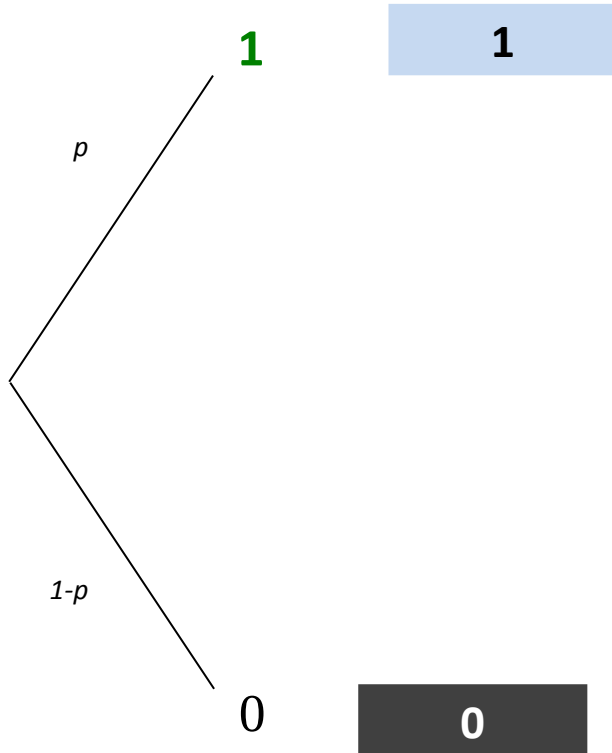
1^{er} tirage



Nombre de succès



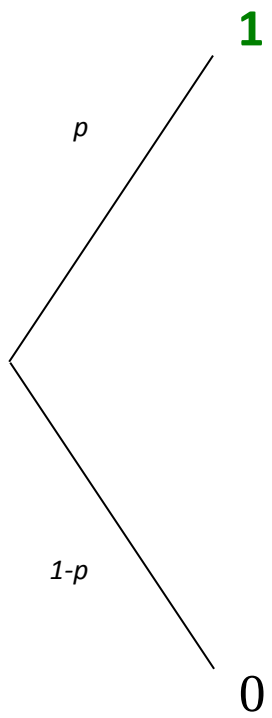
Loi de probabilités

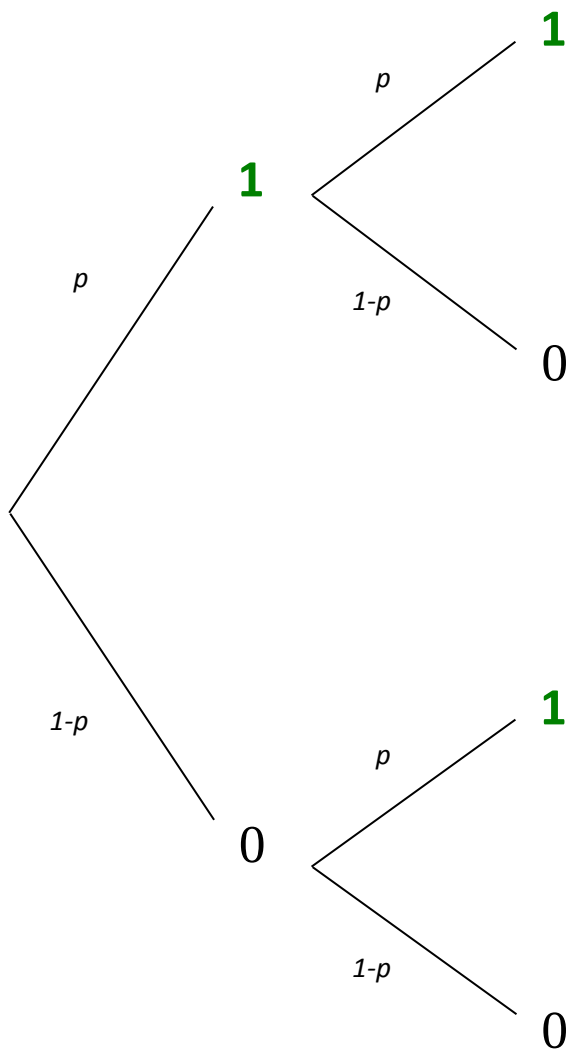


$$P(X = 1) = p$$

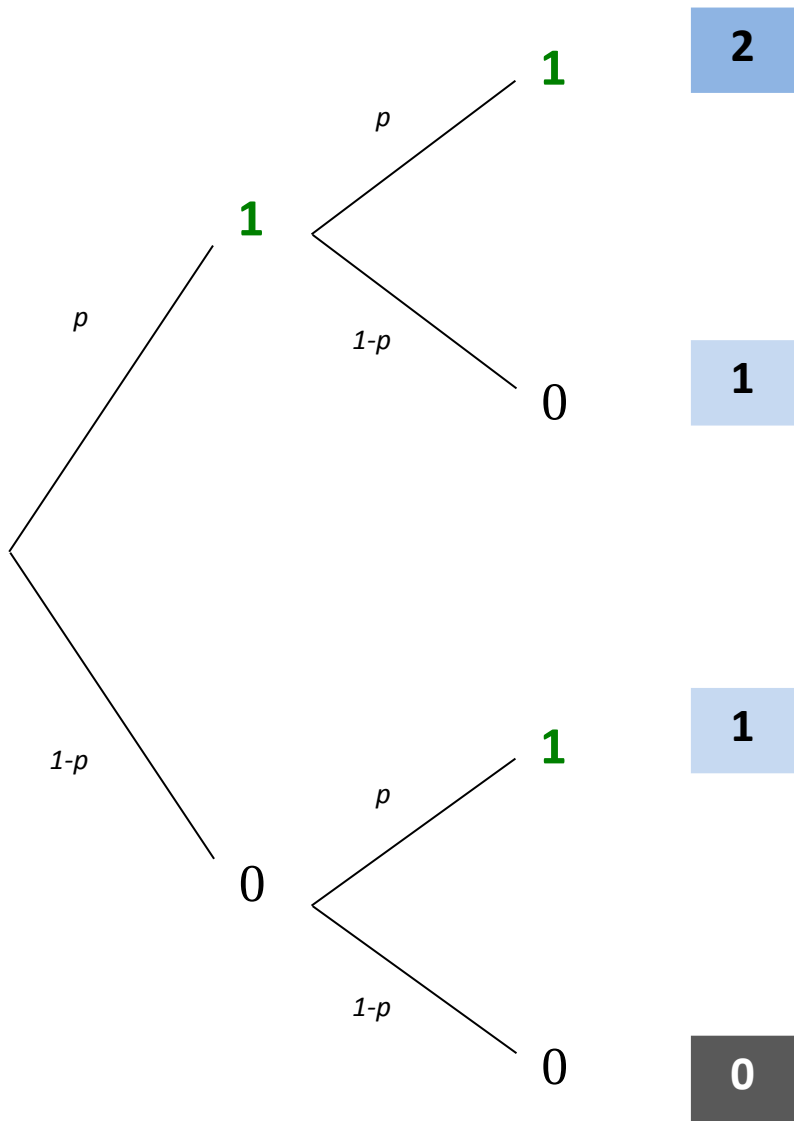
$$P(X = 0) = 1 - p$$

2^e tirage

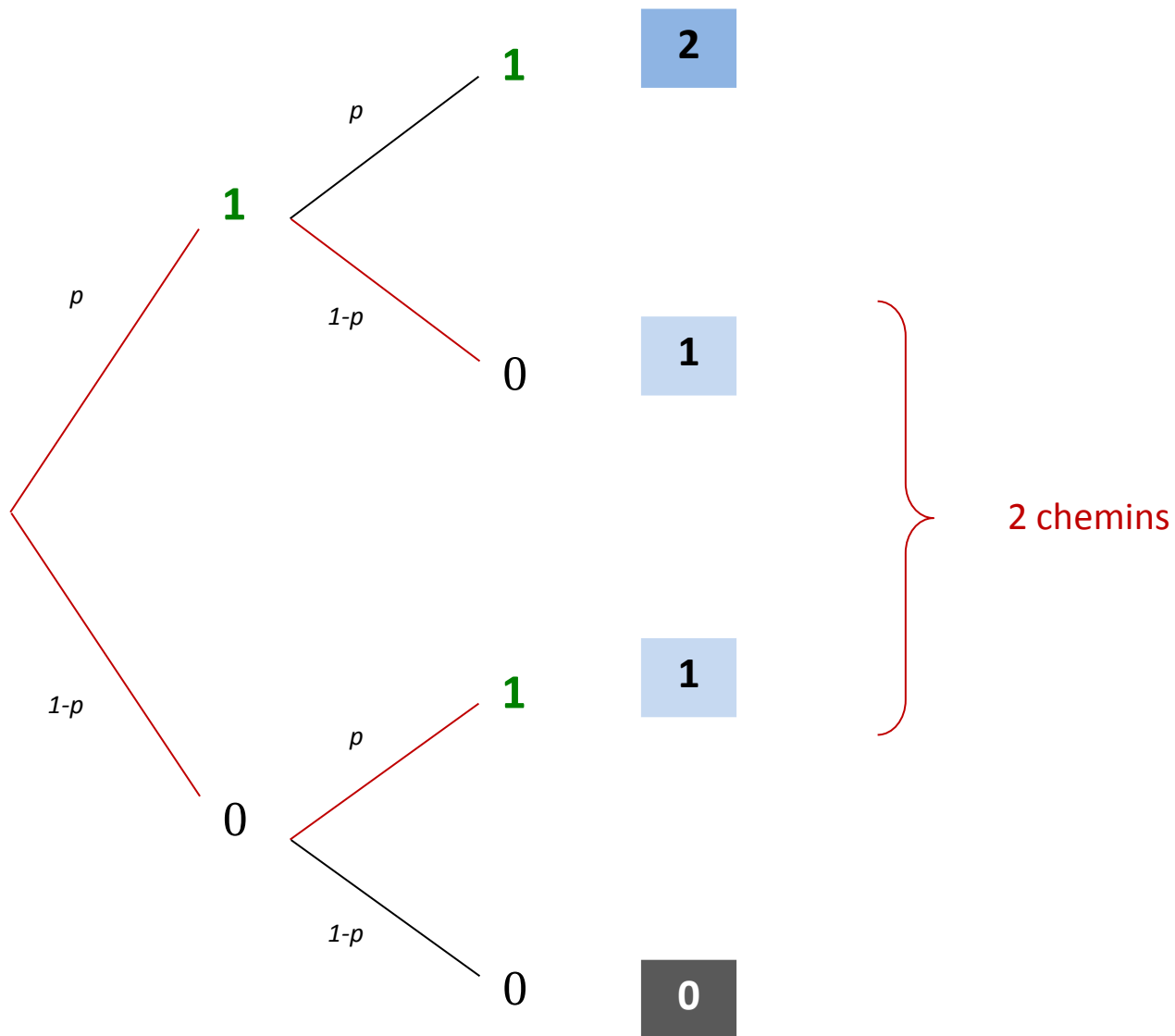


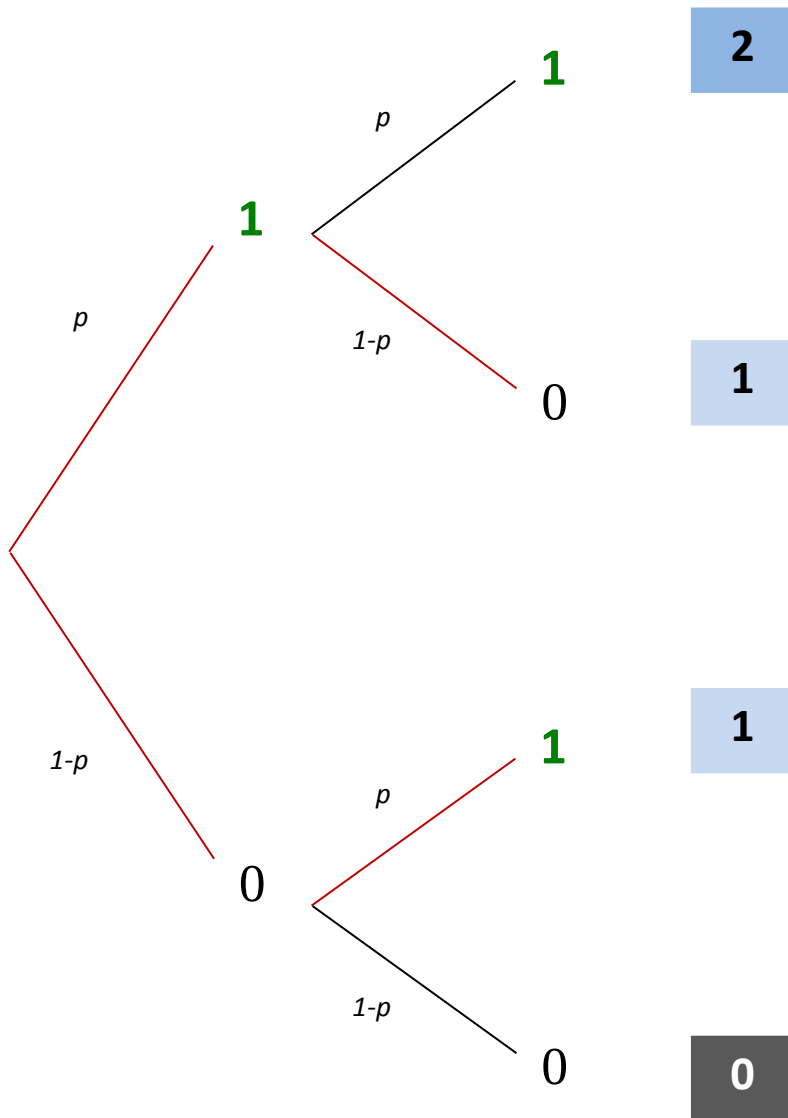


Nombre de succès



Nombre de chemins





$$P(X = 2) = p^2$$

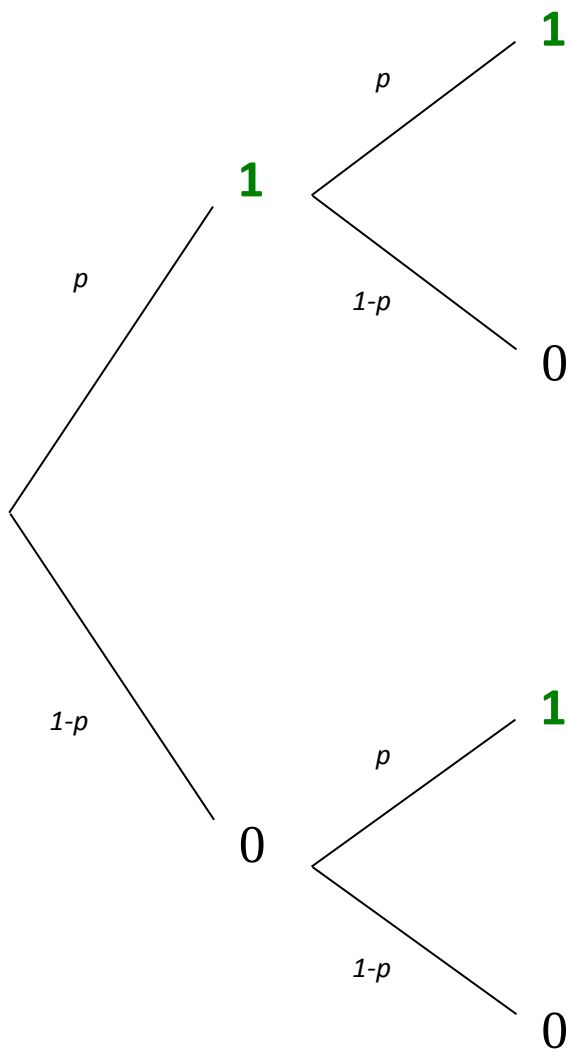


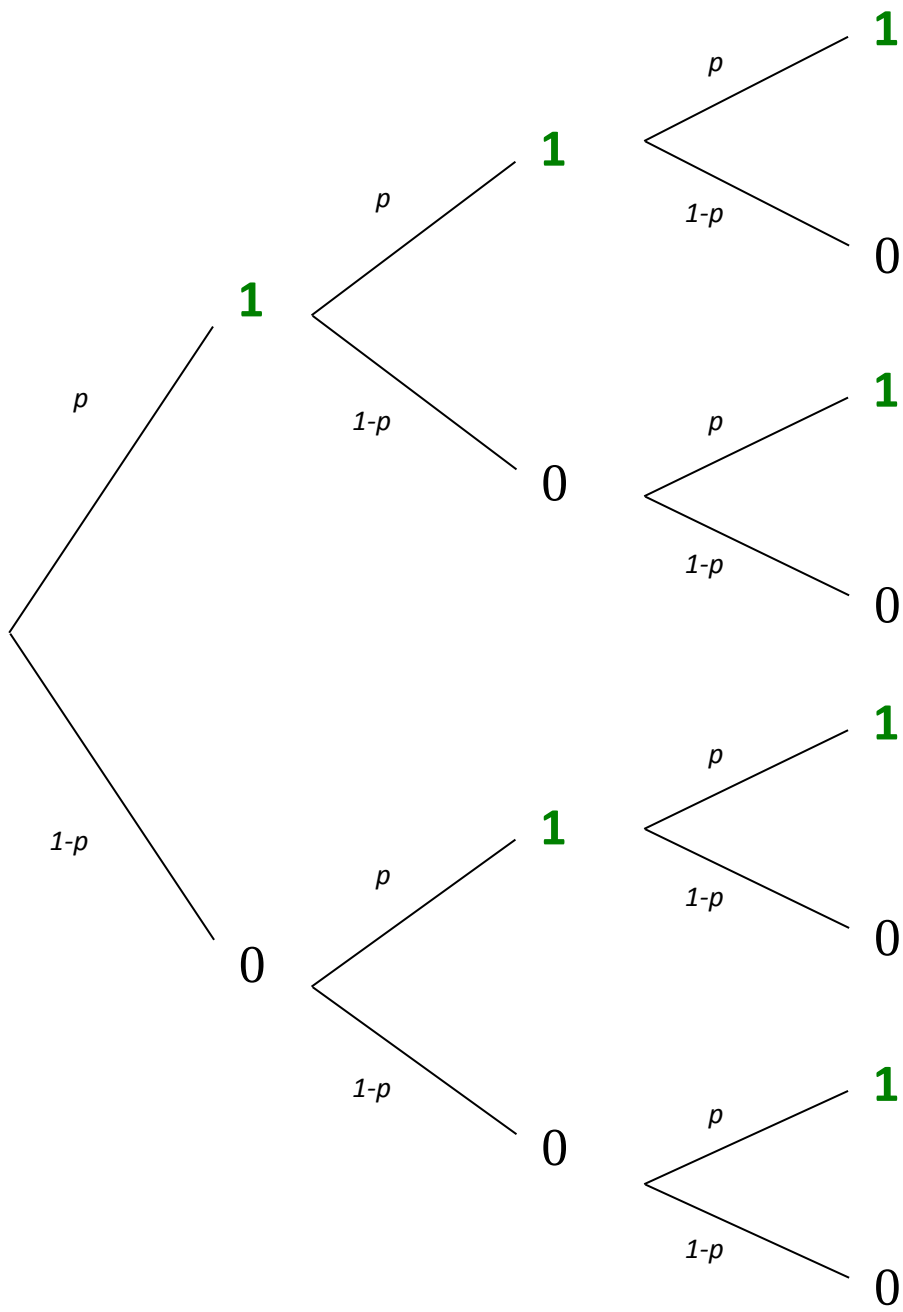
2 chemins

$$P(X = 1) = 2 \times p \times (1-p)$$

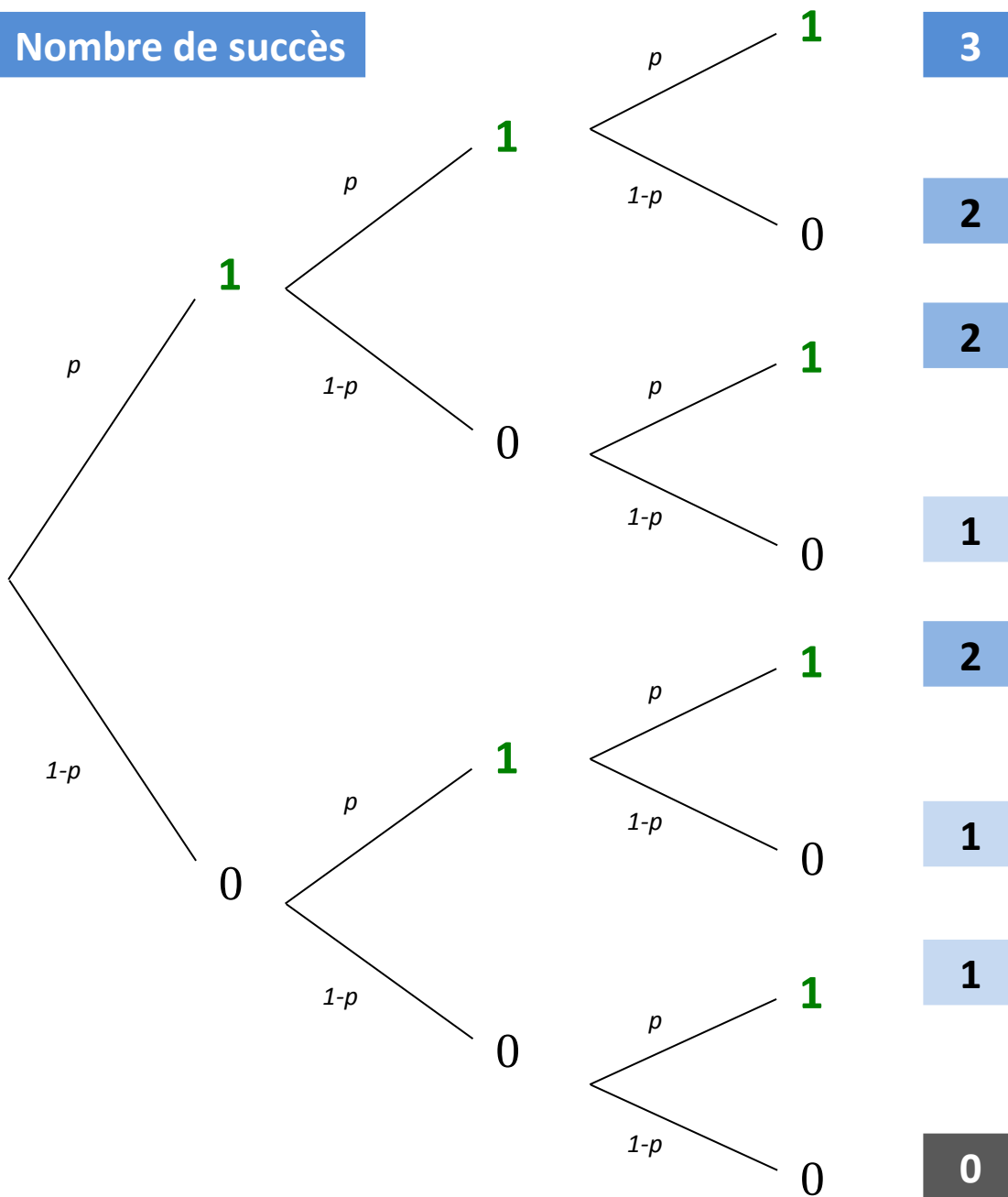
$$P(X = 0) = (1-p)^2$$

3^e tirage

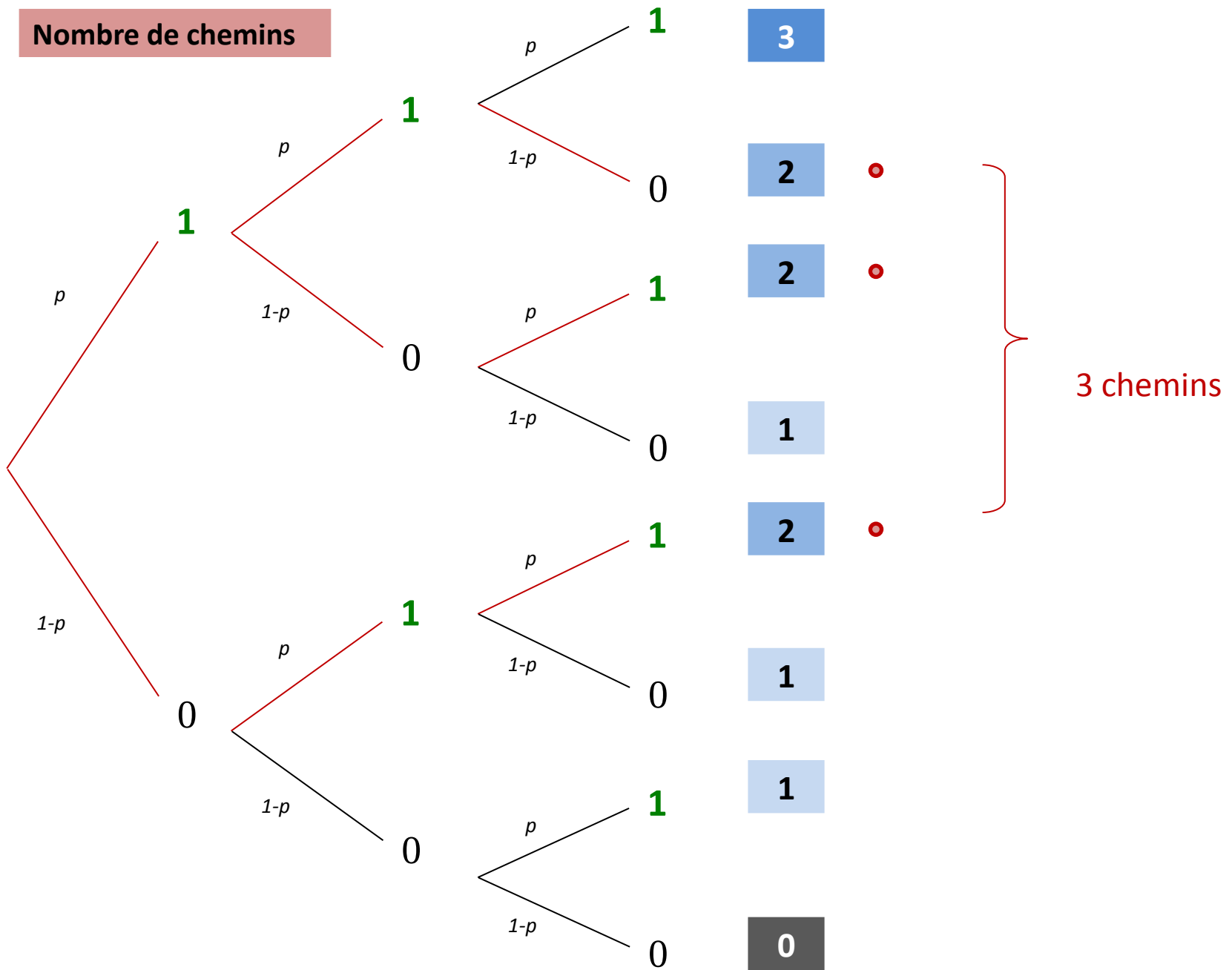




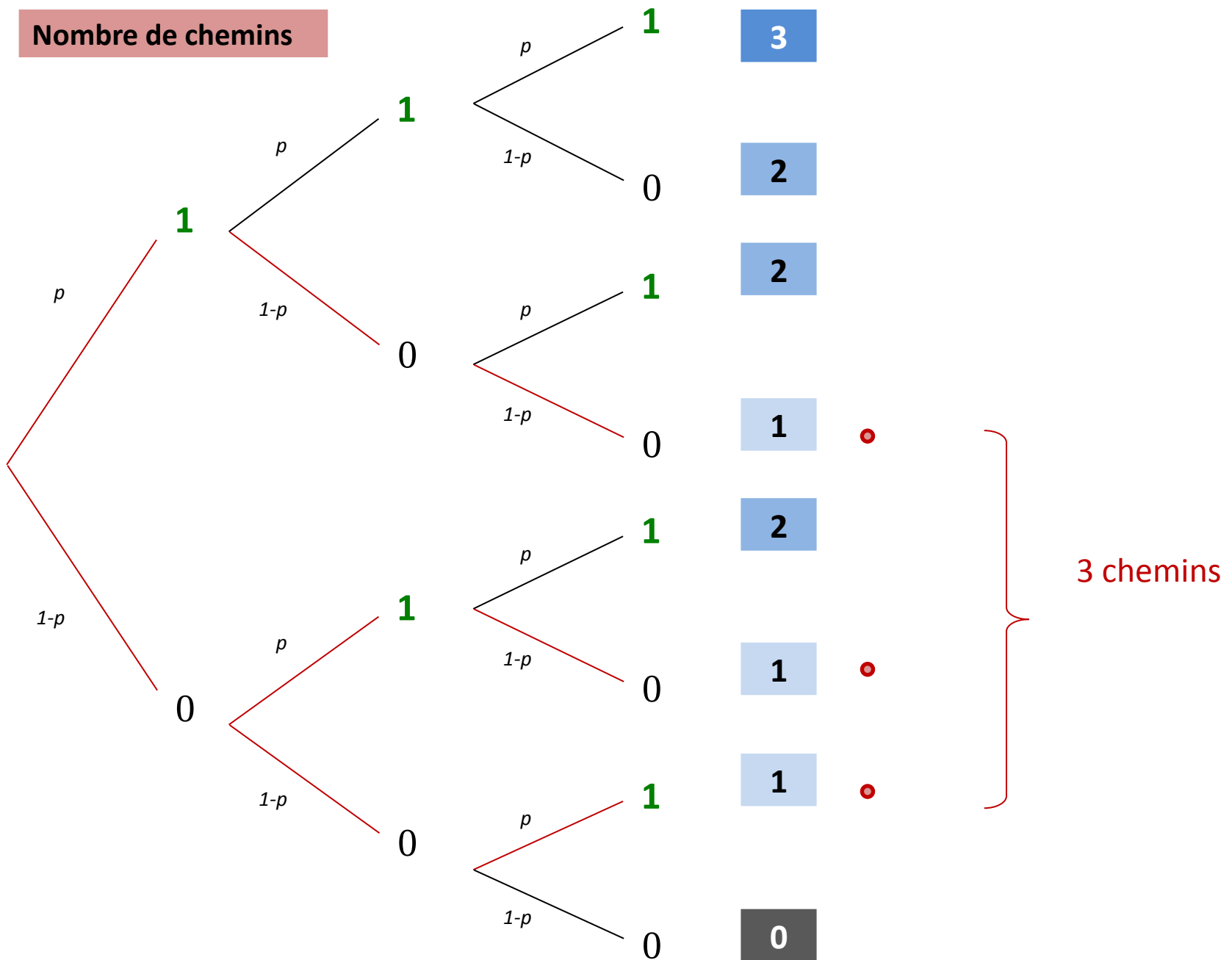
Nombre de succès



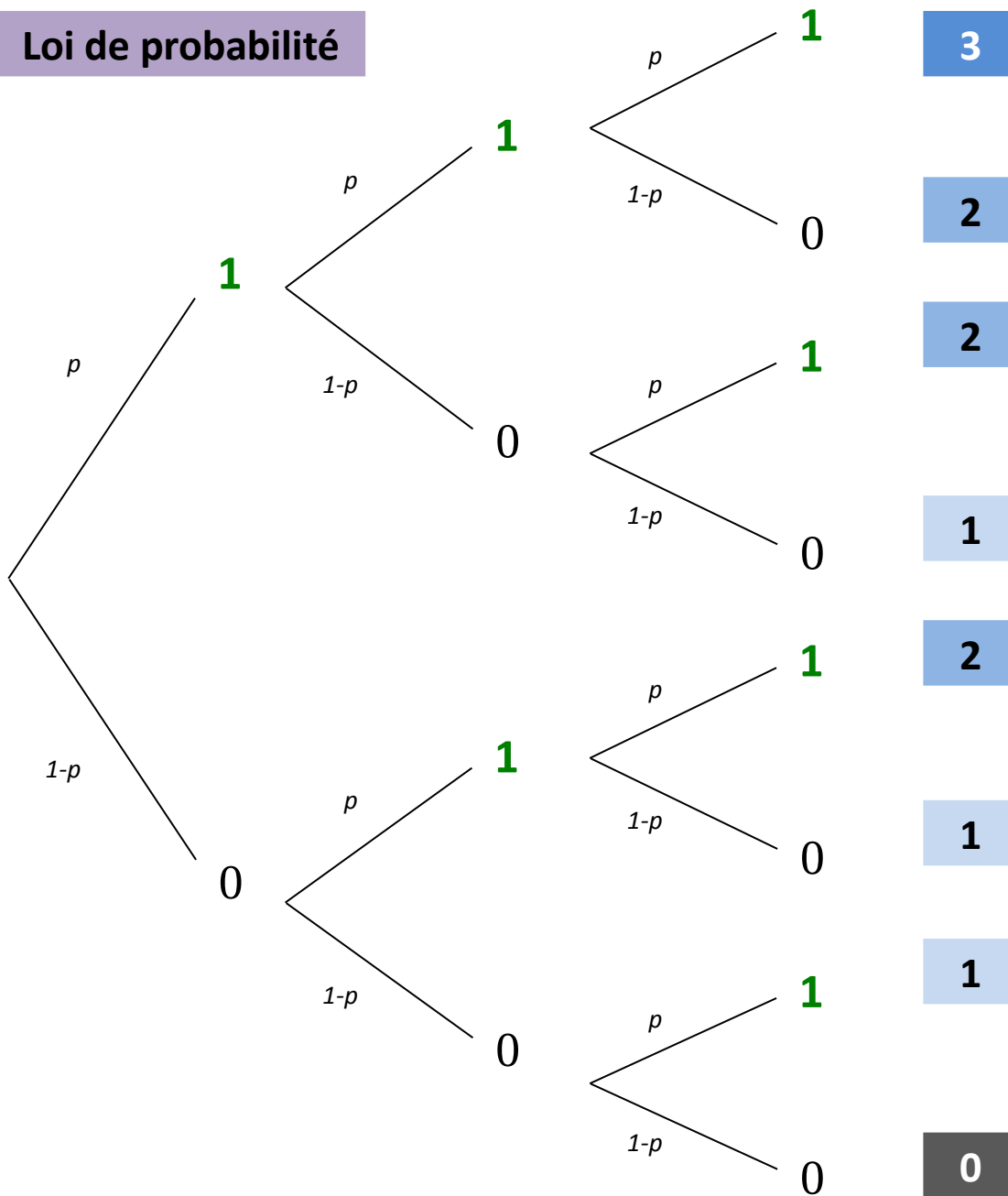
Nombre de chemins



Nombre de chemins



Loi de probabilité



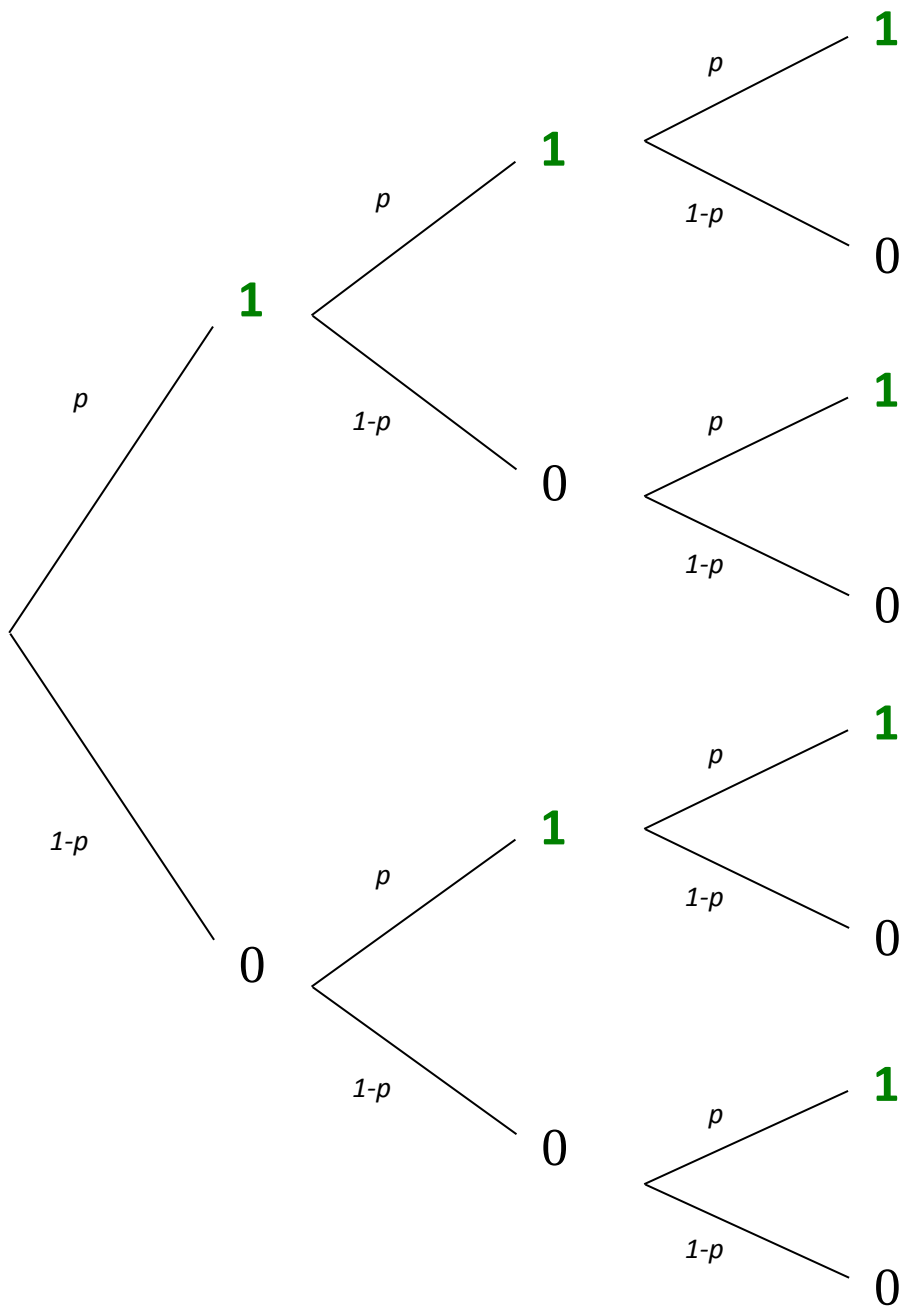
$$P(X = 3) = p^3$$

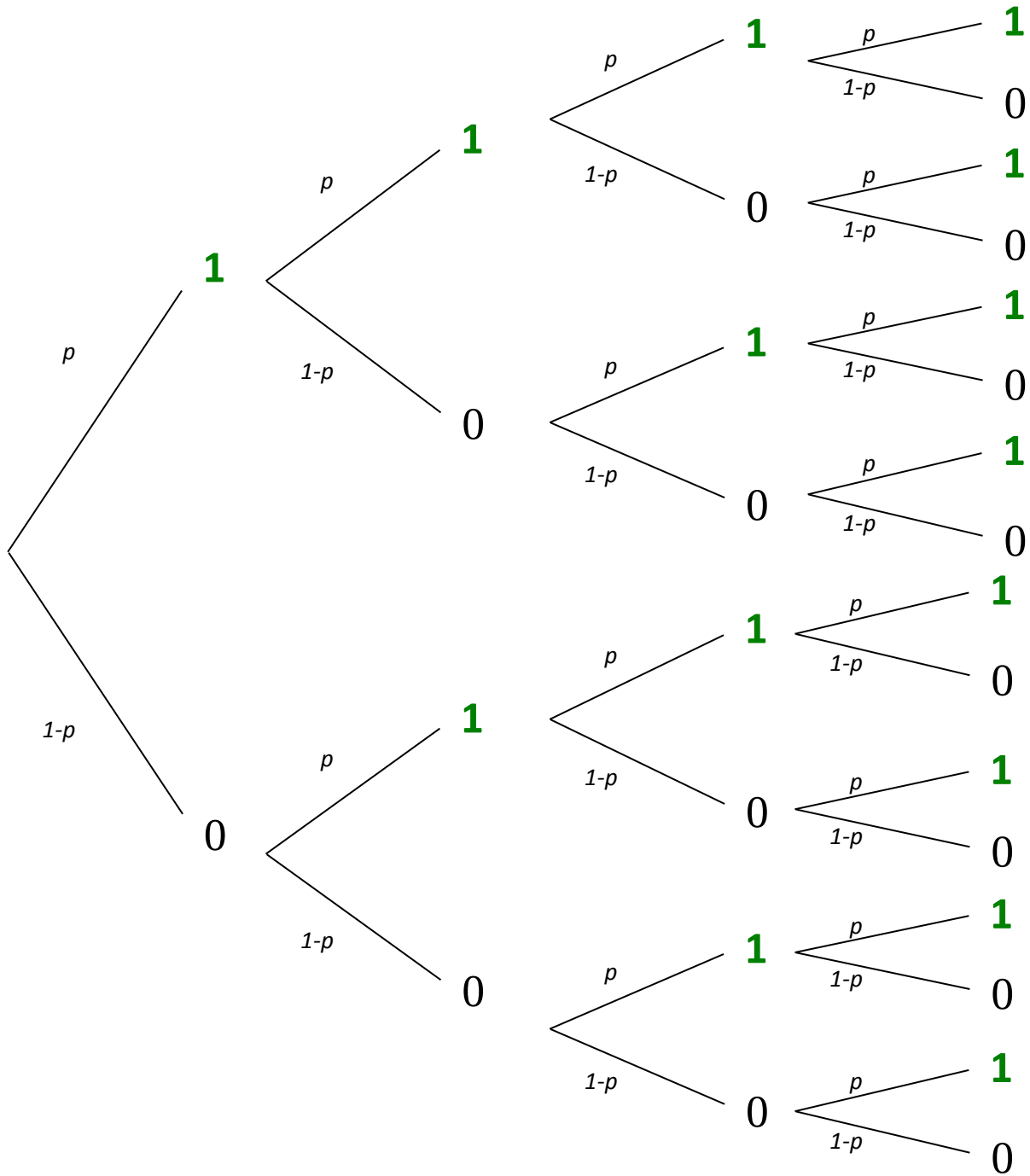
$$P(X = 2) = 3 \times p^2 \times (1-p)$$

$$P(X = 1) = 3 \times p \times (1-p)^2$$

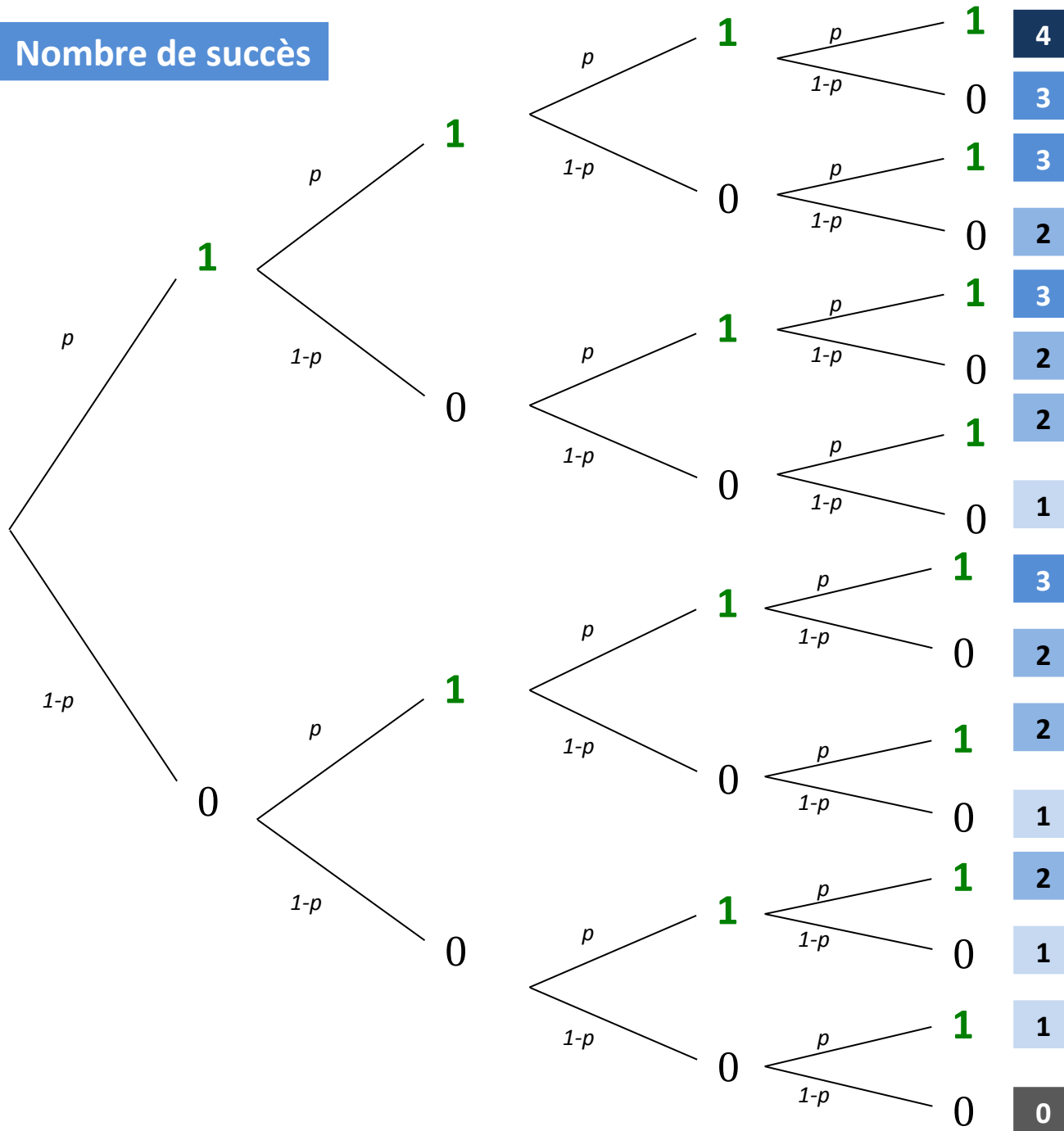
$$P(X = 0) = (1-p)^3$$

4^e tirage

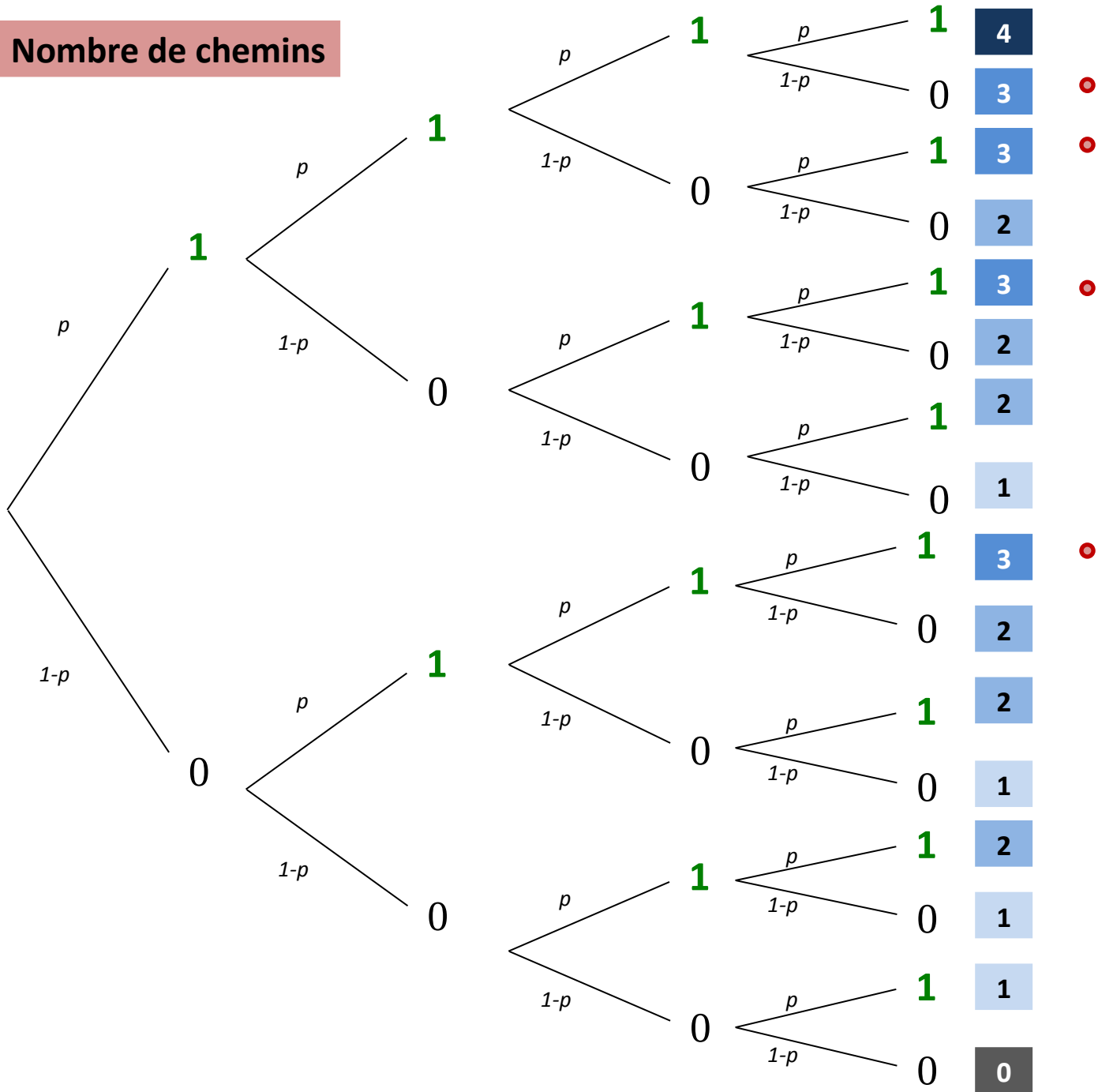




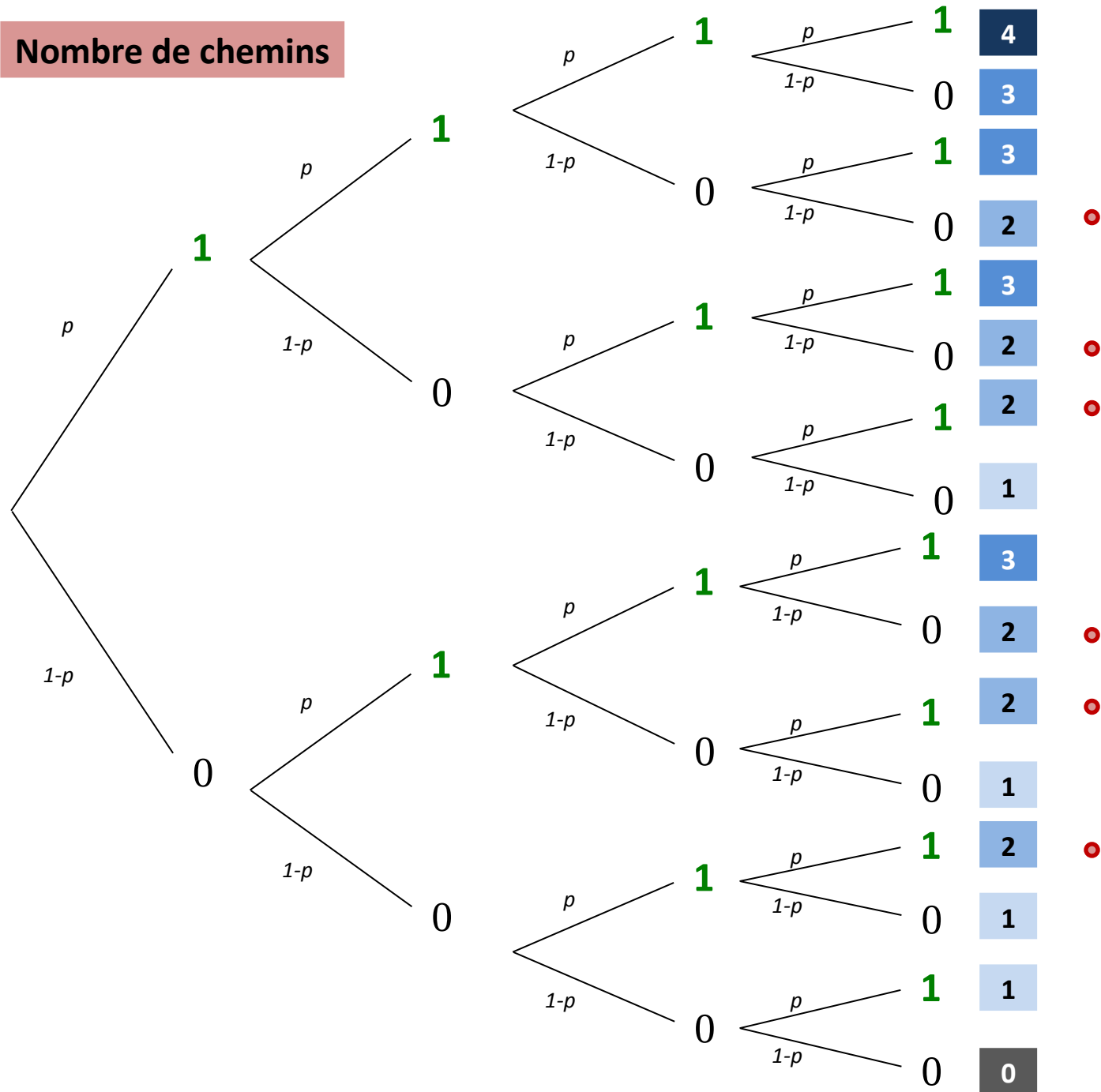
Nombre de succès



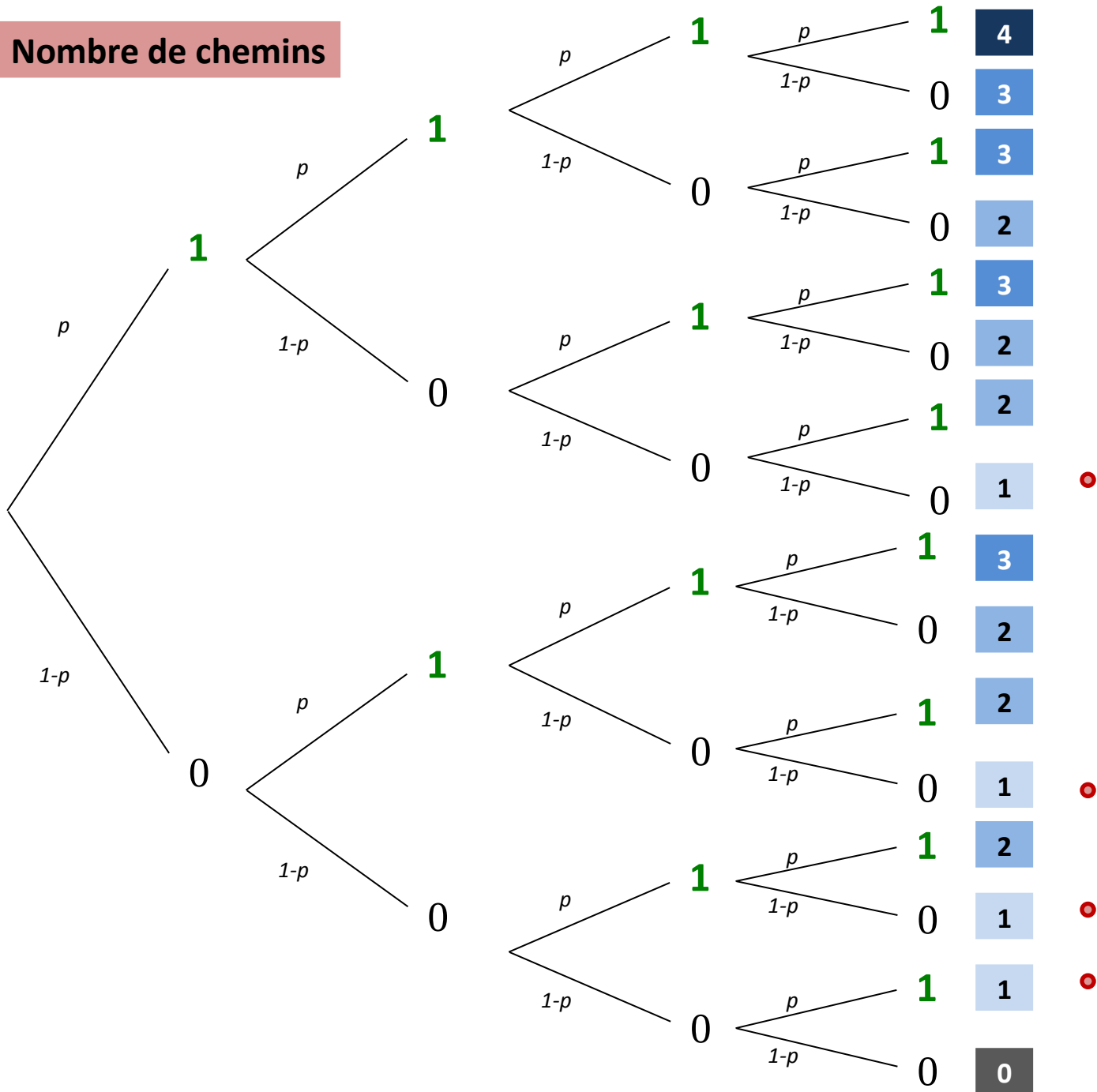
Nombre de chemins



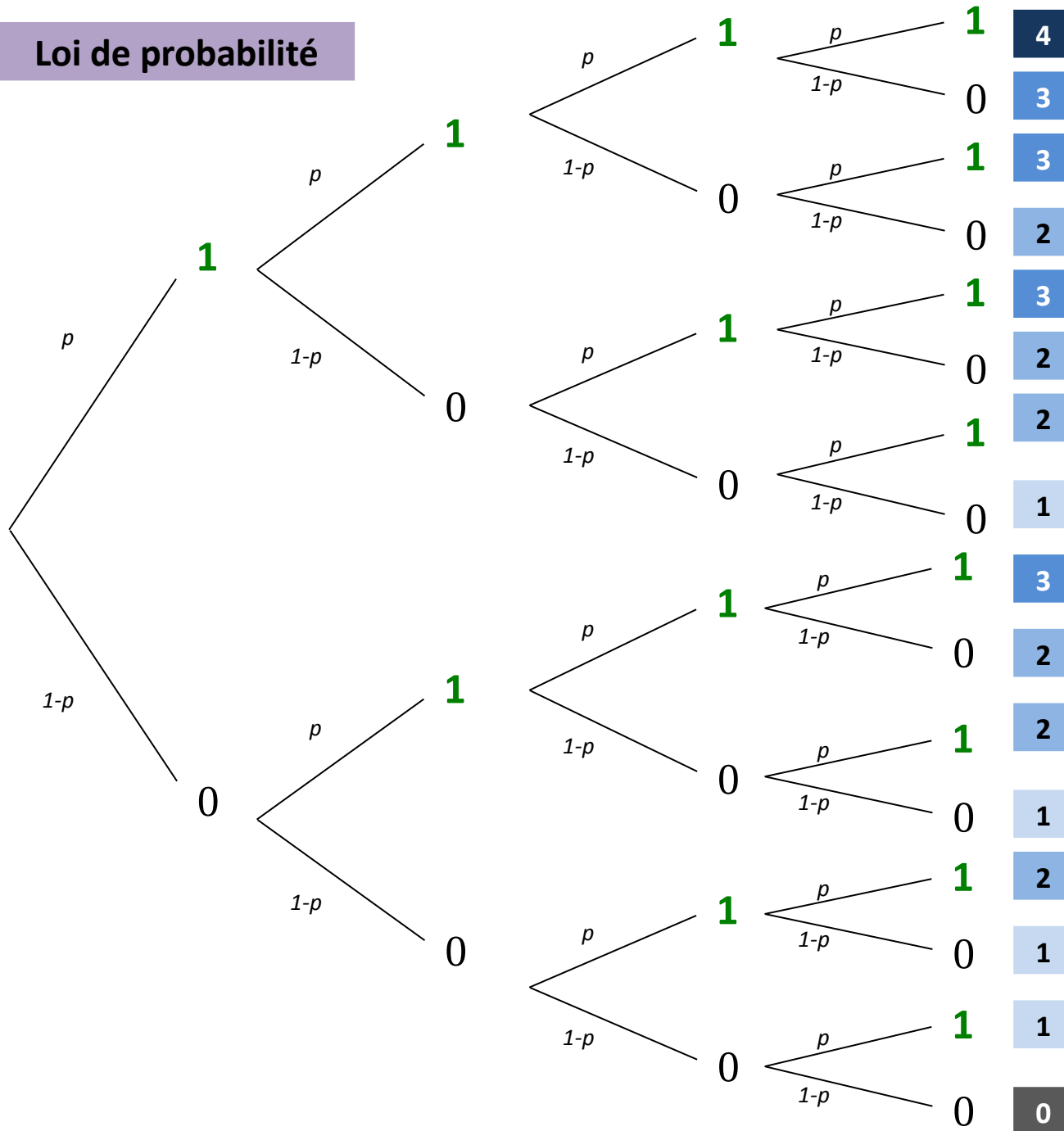
Nombre de chemins



Nombre de chemins



Loi de probabilité



$$P(X = 4) = p^4$$

$$P(X = 3) = 4 \times p^3 \times (1-p)$$

$$P(X = 2) = 6 \times p^2 \times (1-p)^2$$

$$P(X = 1) = 4 \times p \times (1-p)^3$$

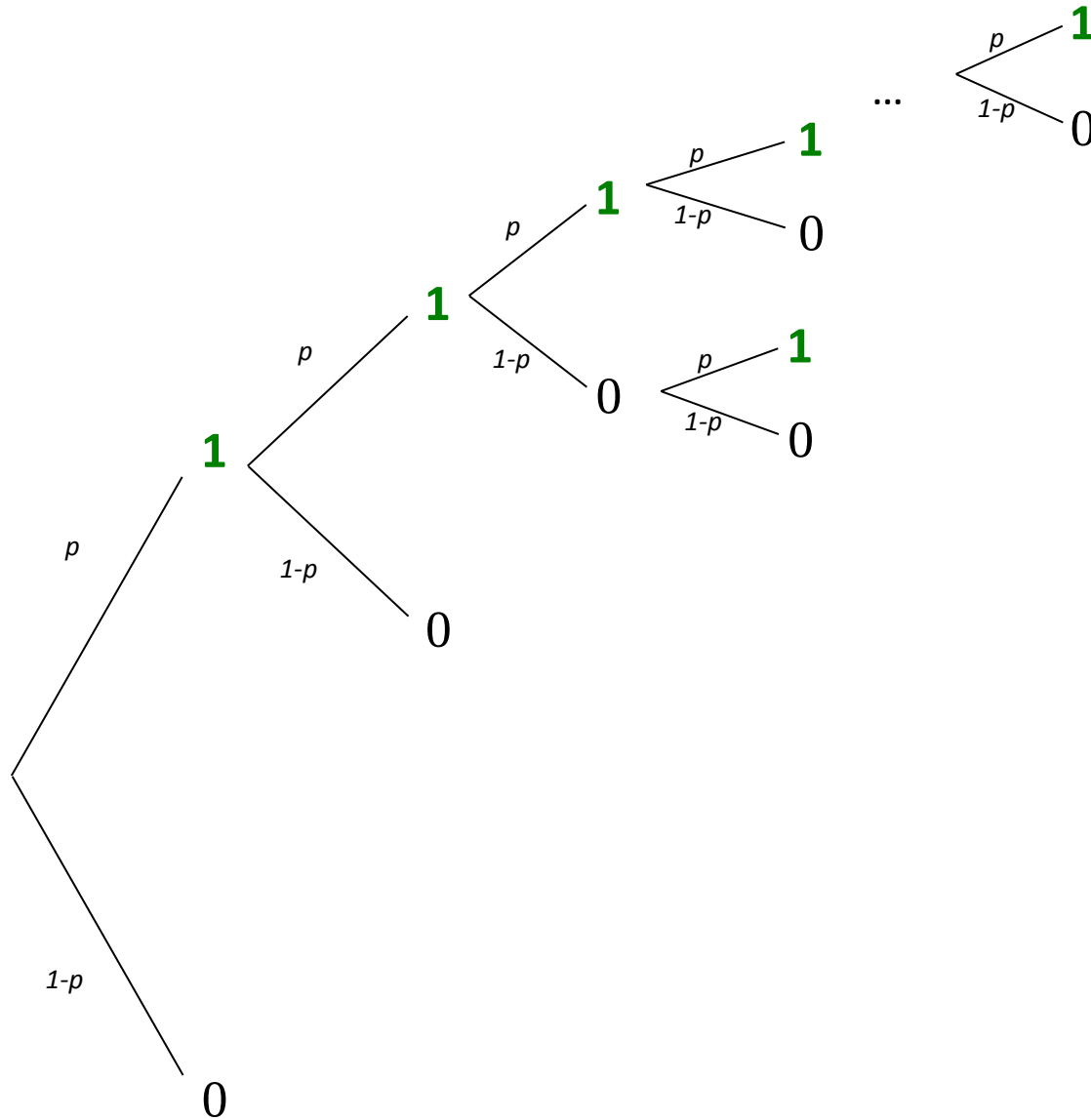
$$P(X = 0) = (1-p)^4$$



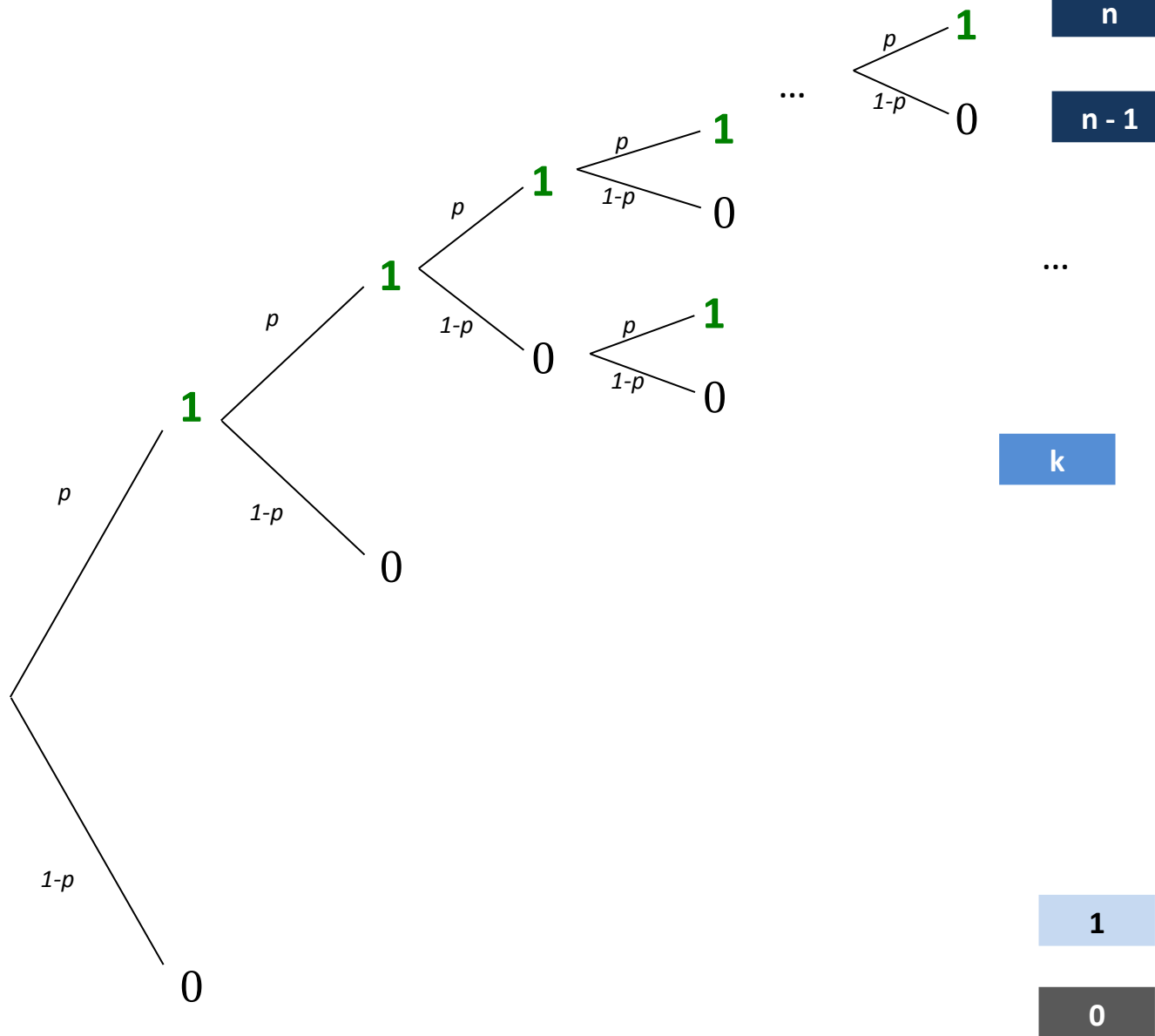


...

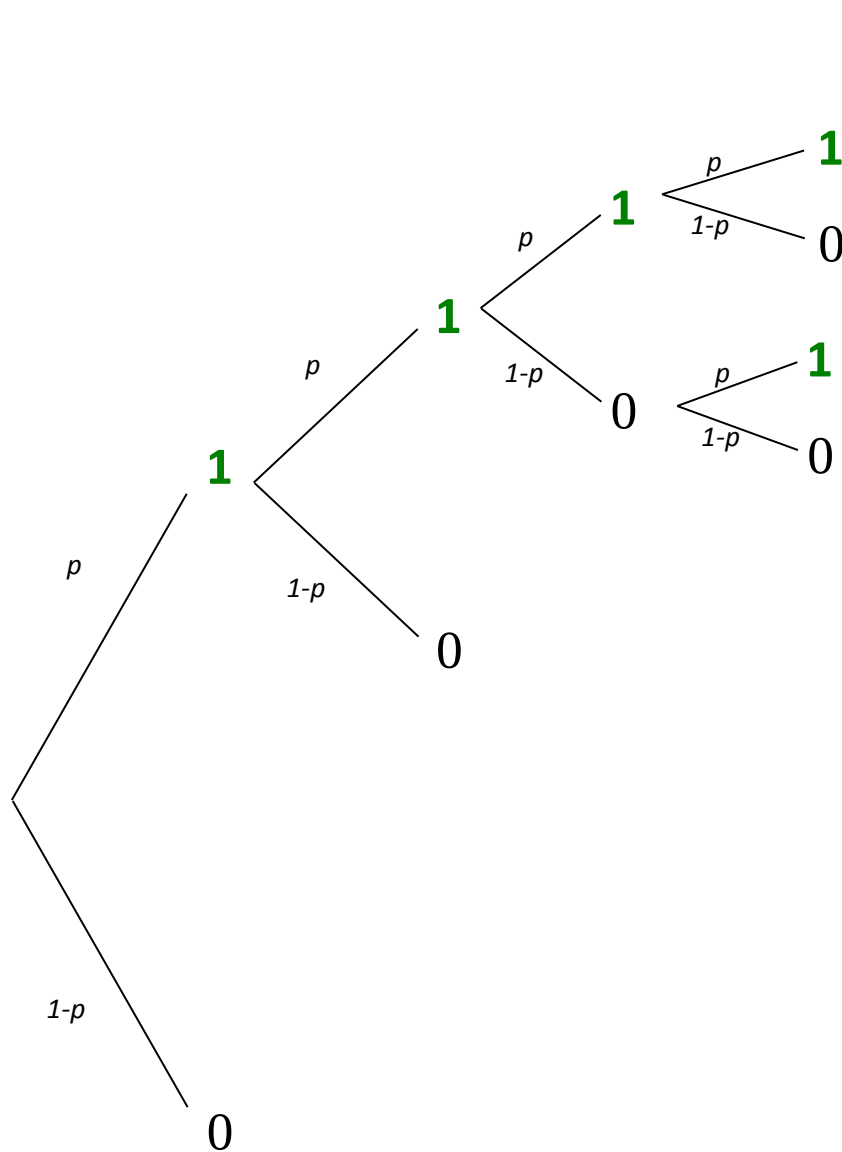
n^{ième} tirage !



Nombre de succès



Loi de probabilité



...

p	1	n	$P(X = n) = p^n$
$1-p$	0	n - 1	$P(X = n-1) = n \times p^{n-1} \times (1-p)$

...

k	$P(X = k) = \binom{n}{k} \times p^k \times (1-p)^{n-k}$
----------	---

1	$P(X = 1) = n \times p \times (1-p)^{n-1}$
----------	--

0	$P(X = 0) = (1-p)^n$
----------	----------------------