$P(N=n) = P(Y_1 \geq 3, \cdots, Y_{n-1} \geq 3, Y_n \leq 2)$

Monday, September 28, 2015 11:58 AM

last 3 flips { 0 1 1 , 1 0 1 }

$\dot{\chi} \equiv \frac{d\chi(t)}{dt}$

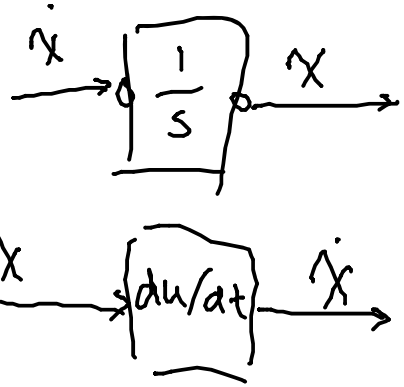
=P(Y1>=3)* P(Y2>=3)*.....*P(Yn<=2)

P(Y>=3) = 1-P(Y=1)-P(Y=2) = 1-p - (1-p)*p = 1 - 2p+p^2 = (1-p)^2

P(Y<=2) = P(Y=1)-P(Y=2) = 2p-p^2

Thus, P(N=n) = (1-p)^(2n-2) *(2p-p^2)

E[N] = sum^infy_{n=2} [P(N=n)*n]



$$\frac{dI(t)}{dt} = \frac{\eta}{\Omega} I(t) \cdot [N - I(t)]$$

Monday, September 28, 2015 12:42 PM