SRS

$n = 1{,}000$

Normal

order

in

-ve

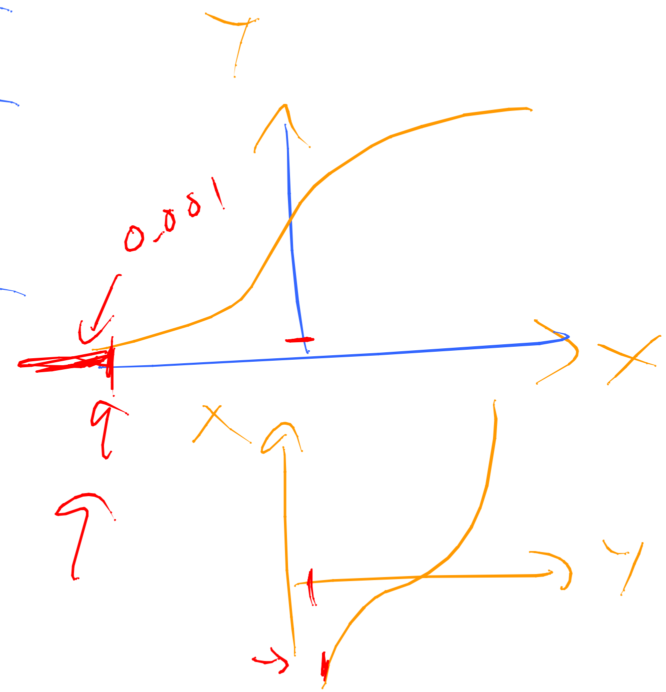
+ve

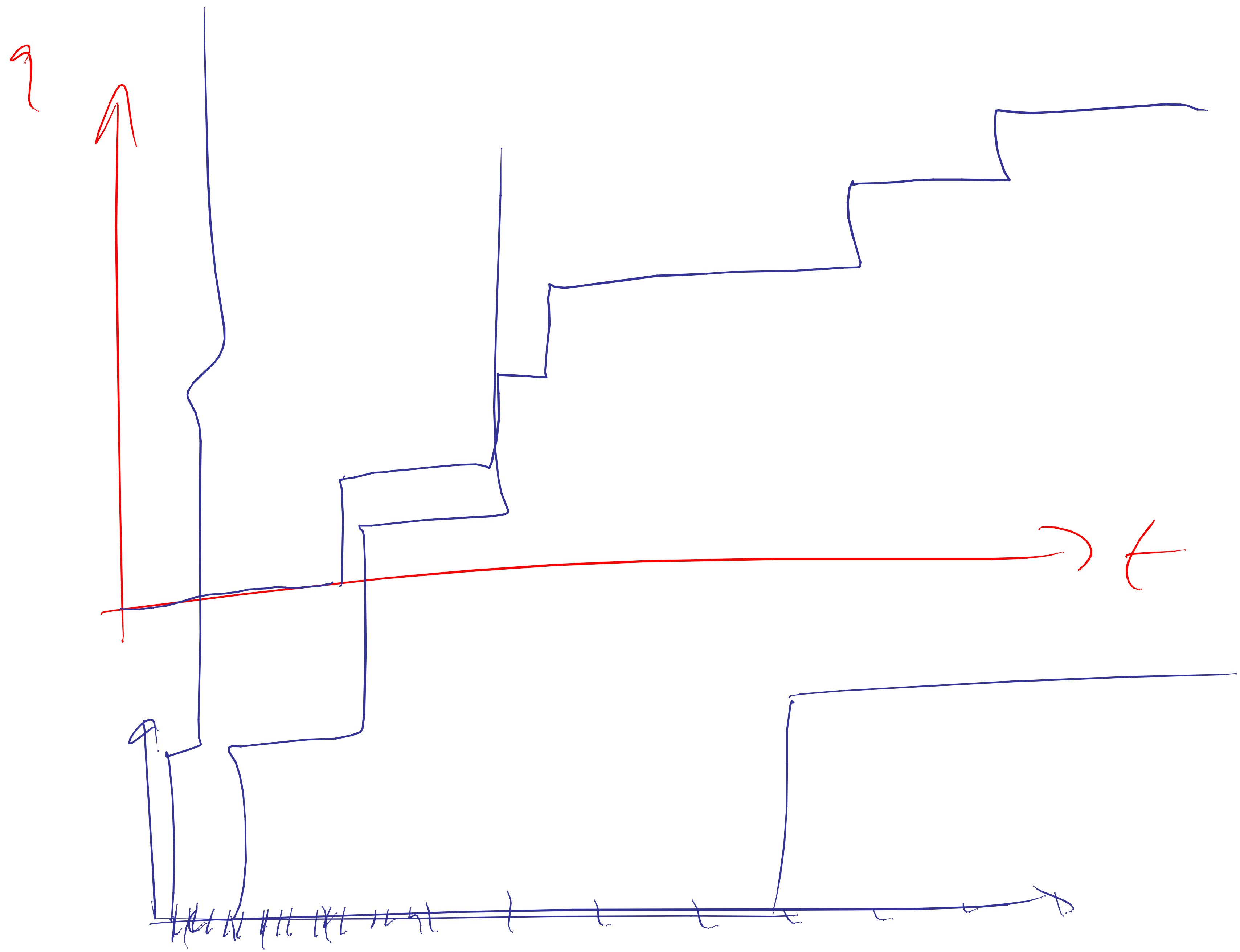
$\text{NORMSINV}\left(\frac{1}{1{,}000}\right)$

$\frac{1}{n}$

m

$\text{NORMSINV}\left(\frac{m}{n}\right)$





q
t

$dq = 0$ no new term ✓

$$dq = 1 \quad \underline{\left(V(JS, t) - \Delta JS\right)} - \underline{\left(V(S,t) - \Delta S\right)}$$ ✓

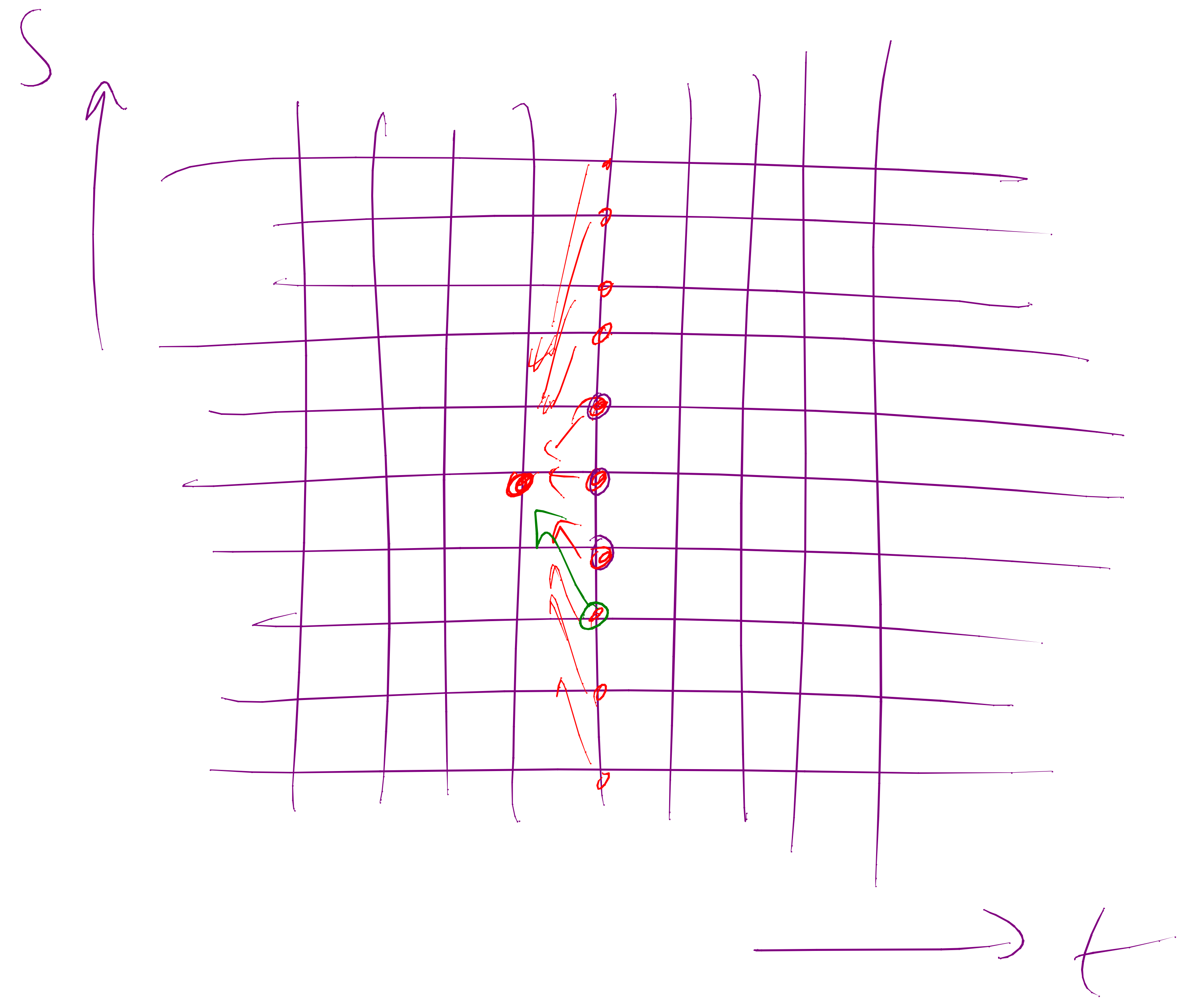
new term:

$$\left\{ \left(V(JS, t) - \Delta JS \right) - \left(V(S,t) - \Delta S \right) \right\} dq$$

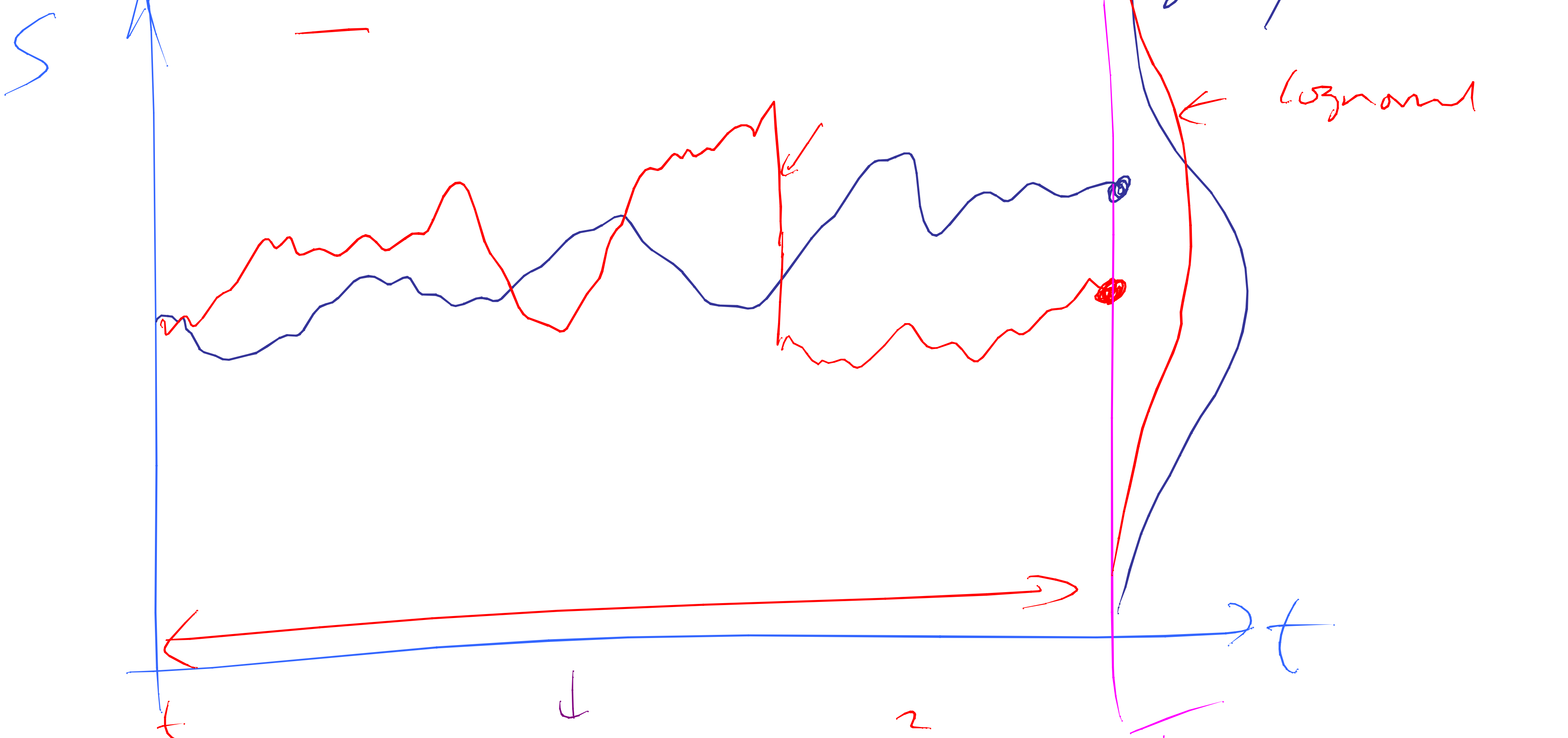
$$d_t = \begin{cases} 0 & 1-\lambda \cdot dt \\ 1 & \lambda dt \end{cases}$$

$$E[d_t] = 0 \cdot (1-\lambda dt) + 1 \cdot \lambda dt = \lambda \cdot dt$$

V
S
t


s
t

$\ln S \to \ln JS = \ln S + \ln J$



Variance: $\sigma^2(T-t) + n\sigma'^2 = \sigma_n^2(T-t)$

$$\sigma_n^2 = \sigma^2 + \frac{n}{T-t}\sigma'^2$$

$$dS = \mu S\,dt + \sigma S\,dX_1$$

$$d\sigma = p\,dt + \xi\,dX_2 \qquad \rho$$

$$\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} + \frac{1}{2}\xi^2 \frac{\partial^2 V}{\partial \sigma^2} + \rho\sigma S\xi \frac{\partial^2 V}{\partial S\,\partial \sigma}$$

$$+ rS\frac{\partial V}{\partial S} + (p - \lambda\xi)\frac{\partial V}{\partial \sigma} - rV = 0$$

S, σ_1, σ_2, t