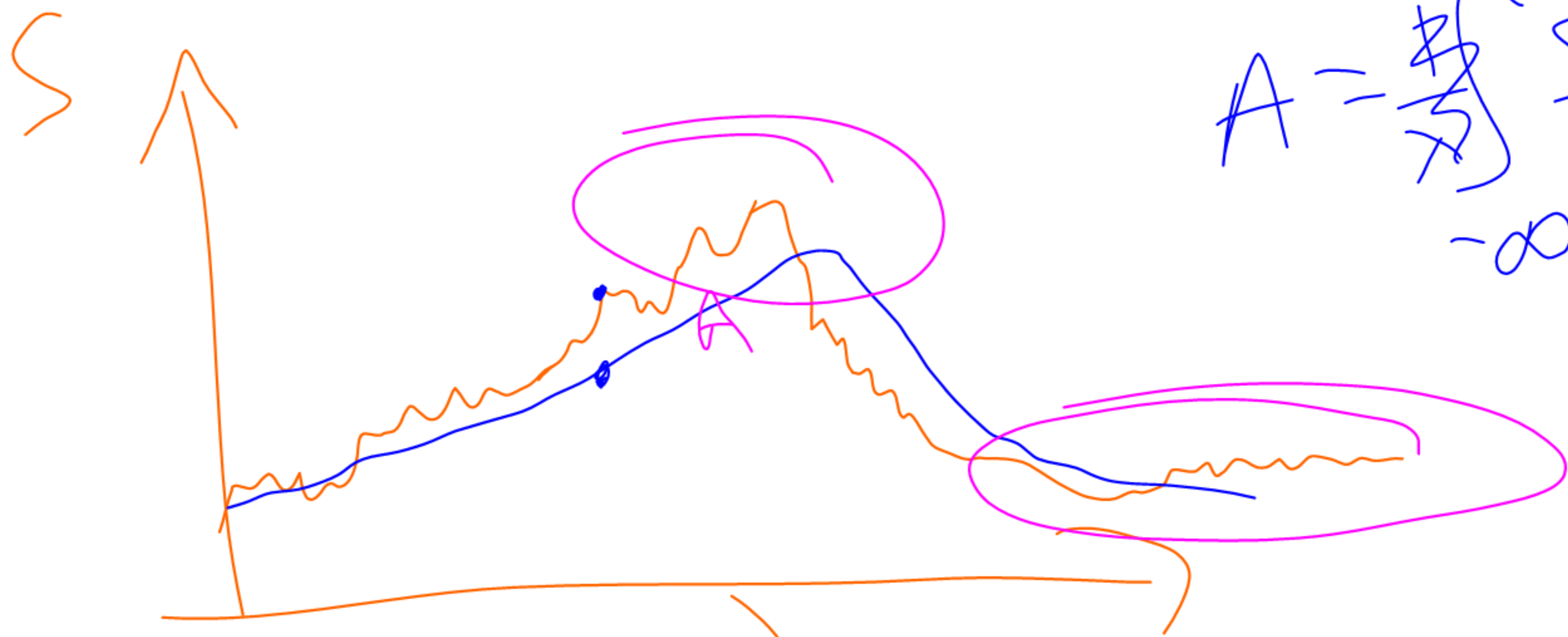
$$\int_{E}^{\infty} \frac{\partial^2}{\partial S^2}\left(\sigma^2 S^2 p\right)(S-E)\,dS$$

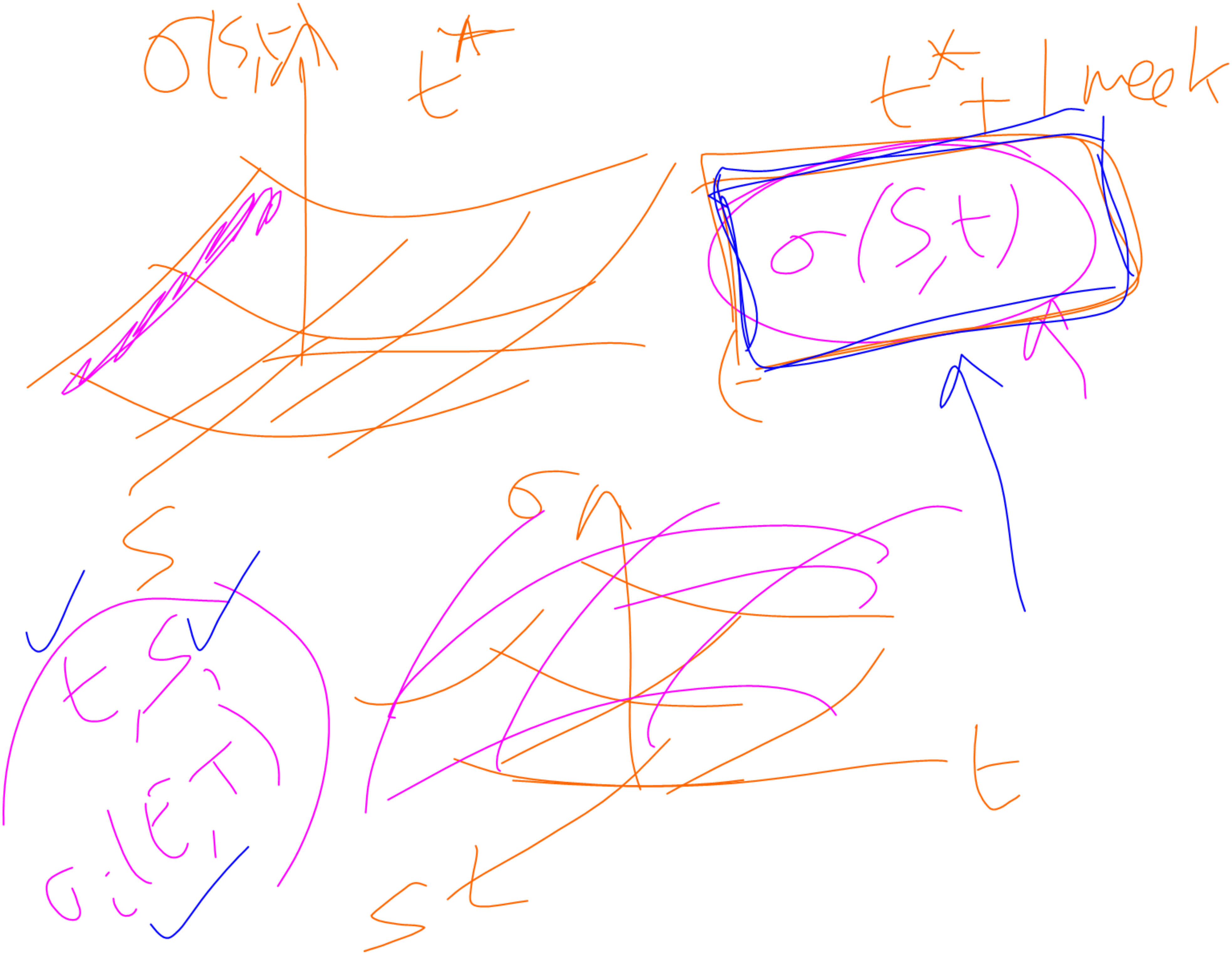
$$= \left[\frac{\partial}{\partial S}\left(\sigma^2 S^2 p\right)\cdot (S-E)\right]_{E}^{\infty} - \int_{E}^{\infty} \frac{\partial}{\partial S}\left(\sigma^2 S^2 p\right)dS$$

$$= 0 - 0 - \left[\sigma^2 S^2 p\right]_{E}^{\infty}$$

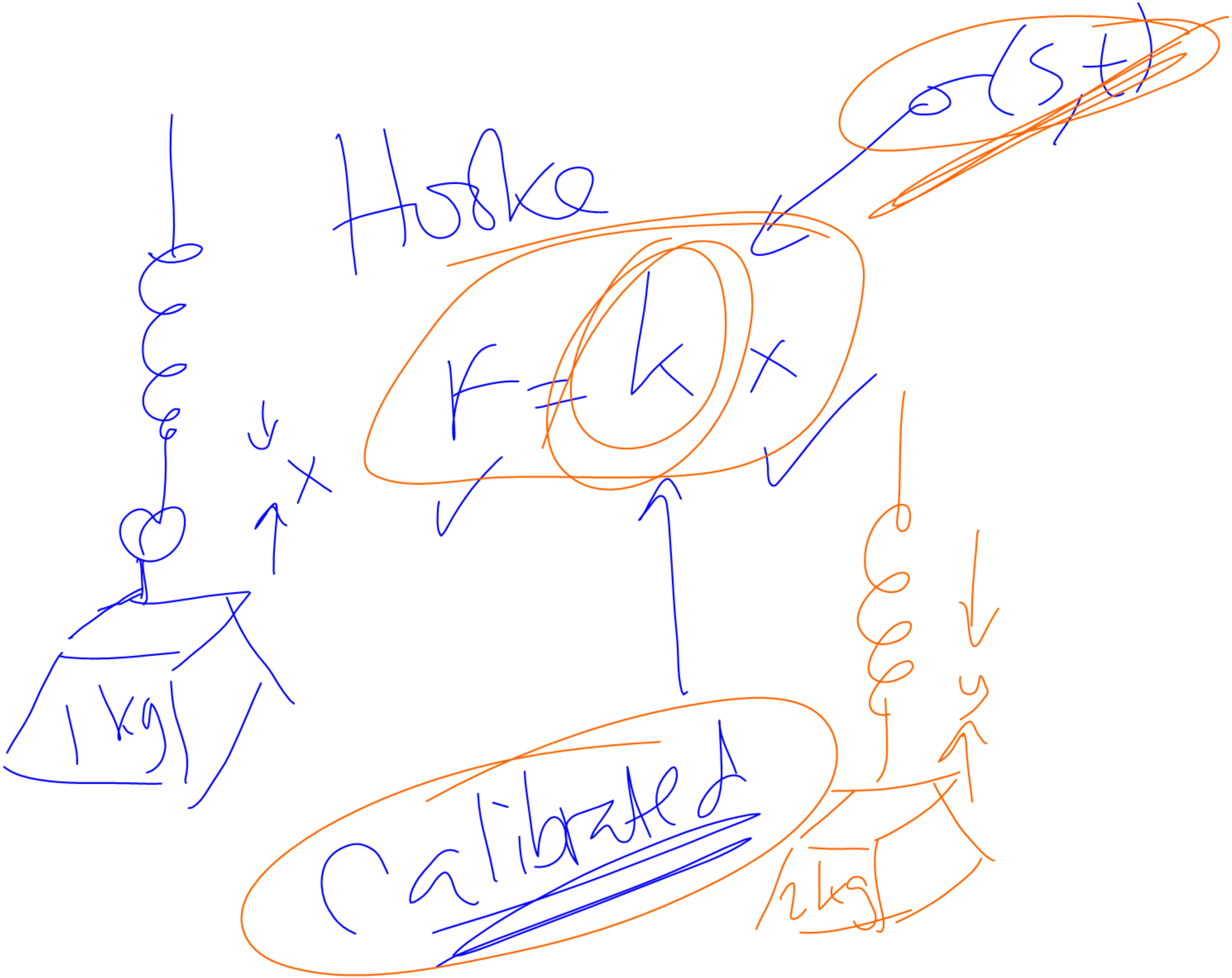
$$= \sigma^2(E,T)\,E^2\,p(S,t;E,T)$$

$$A = \frac{k}{\tau}\int_{-\infty}^{t} S\, e^{-\gamma(t-t')}\,dt'$$





σ(S,t)
t*
t* + 1week
σ(S,t)
S
t, S
σ(t,T)
σ
t
S
t


Hooke
F = k x
c(st)
1 kg
Calibrated
2kg

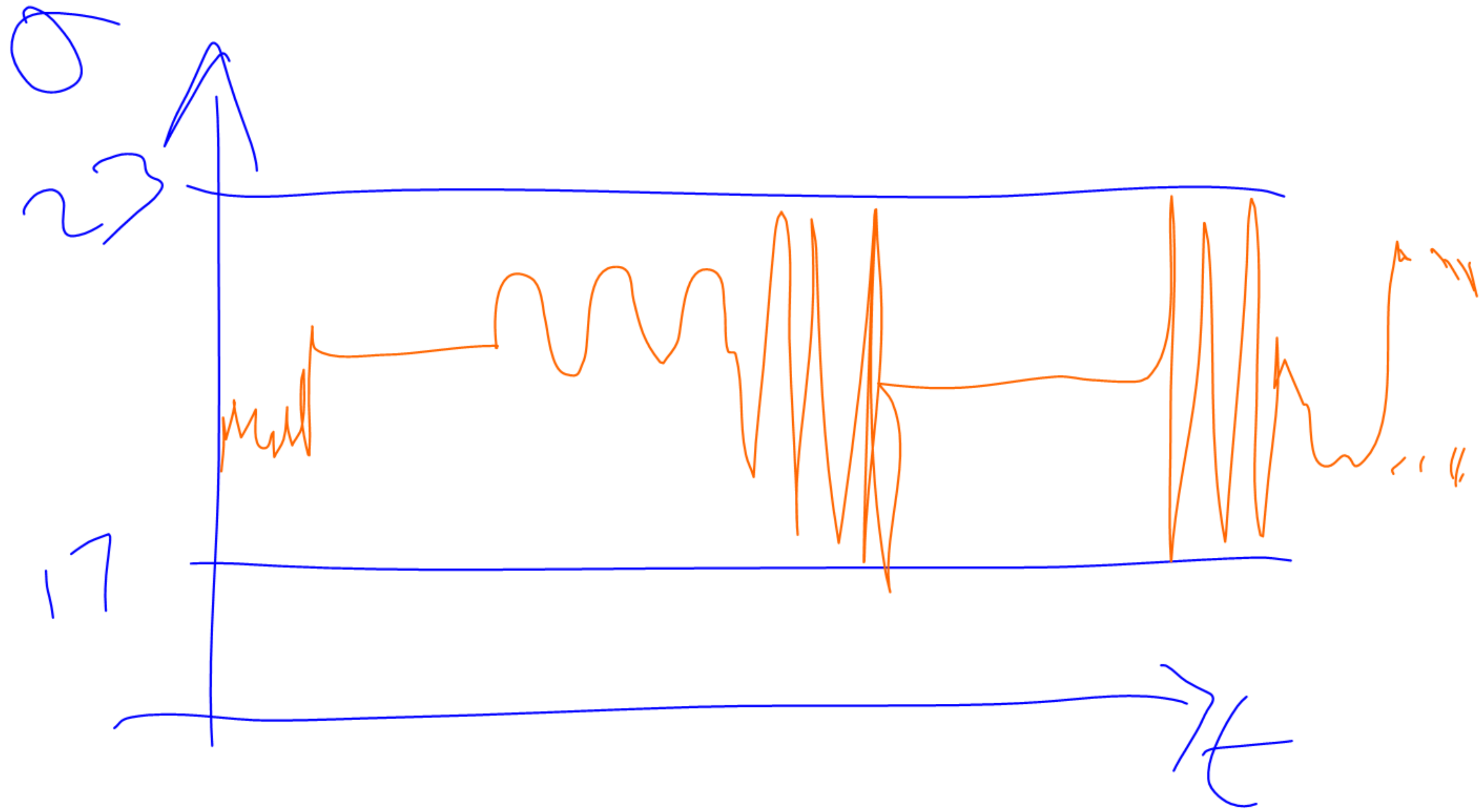
Winston - Long call

$10 $\quad 15 < \sigma < 25$

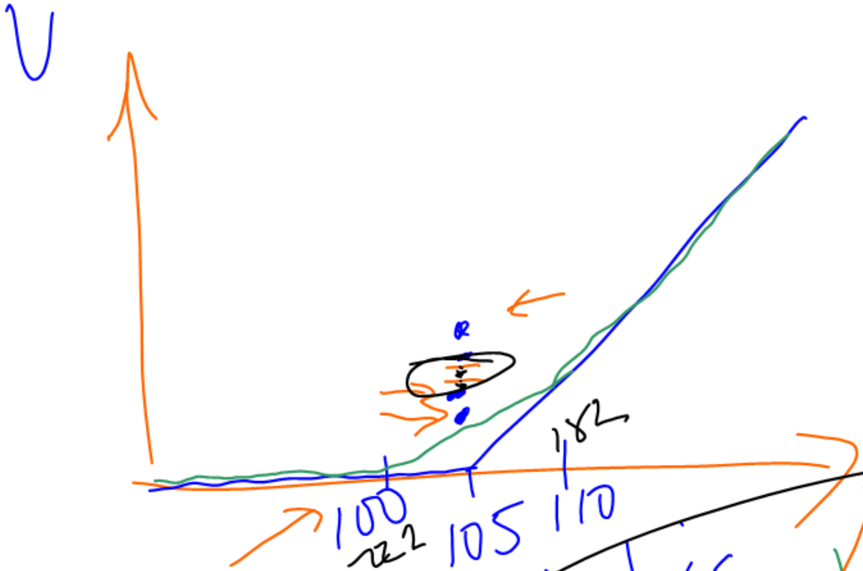
P.W. - Short call

$15 < \sigma < 25$

\- $16

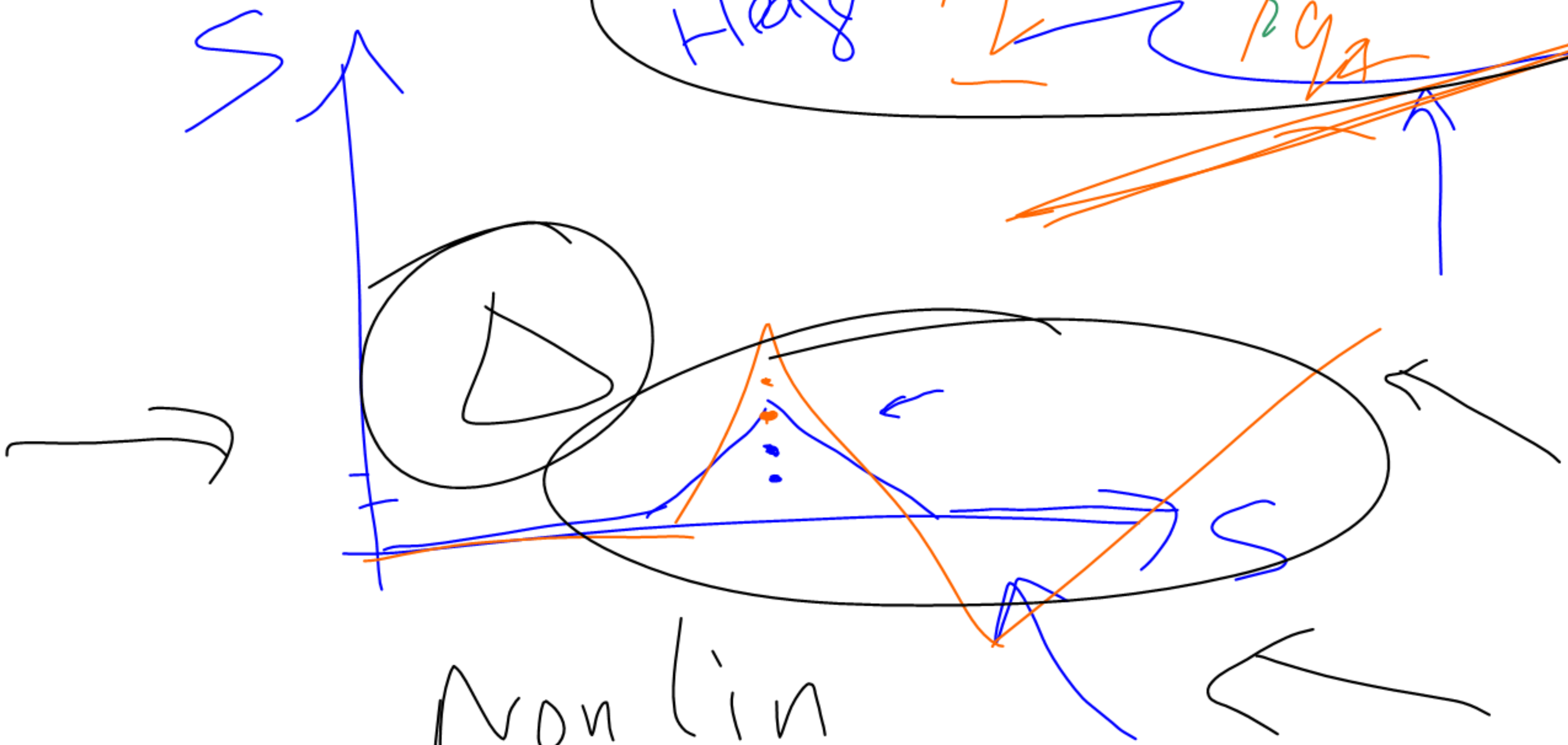


σ
23
17
t



$15 < \sigma < 25$

Static Hedge $= \frac{1}{2}$ cost of 100 call $+ \frac{1}{2}$ cost of 110 call

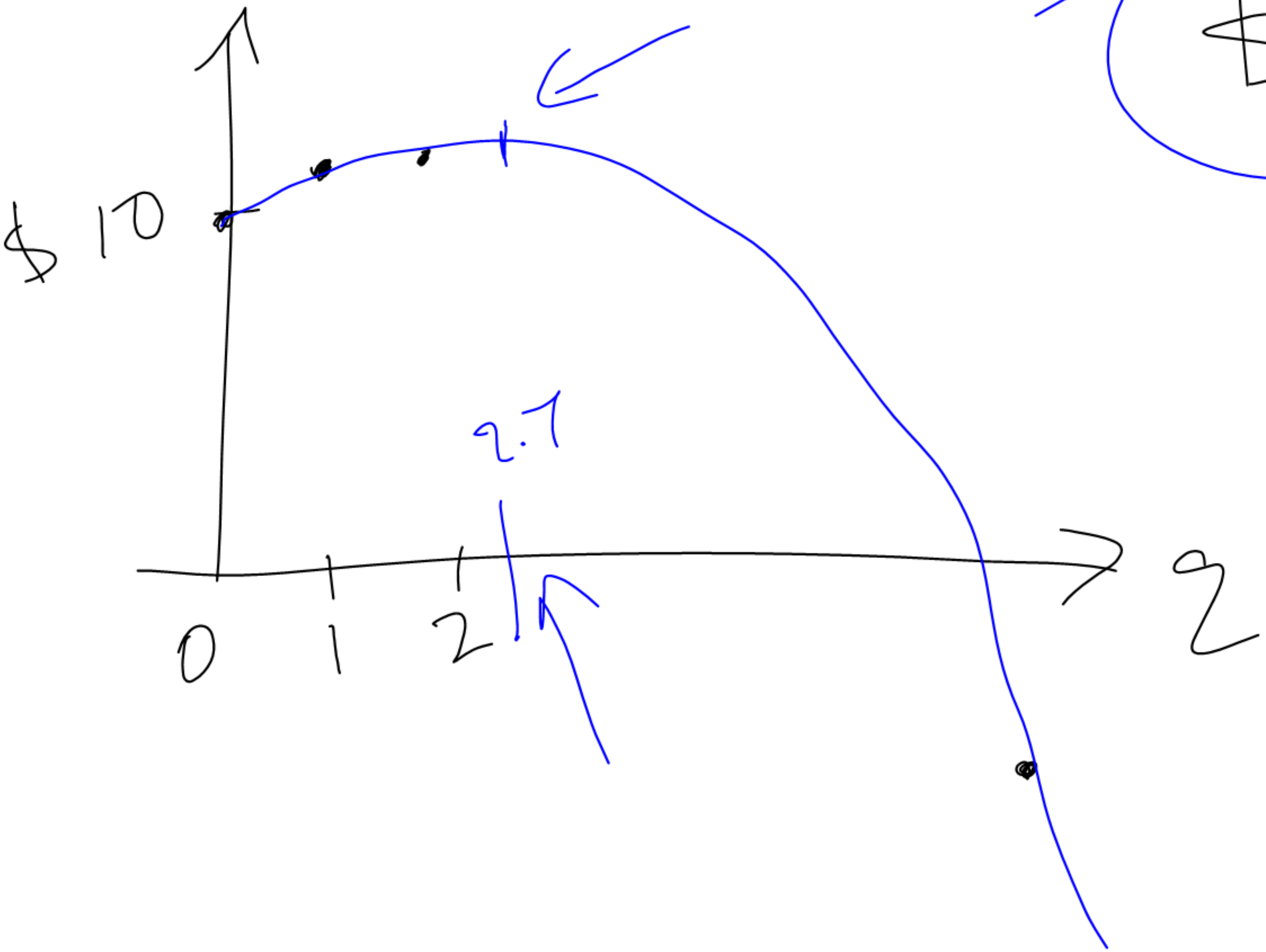


Non lin

Barrier

$\sigma^- < \sigma < \sigma^+$

$5



$\mu \leftarrow$ Vanilla$_3$

$$\text{Value}(\cancel{\text{Exotic}}) \quad \text{(Vanilla}_3\text{)}$$

$$\sigma^- < \sigma < \sigma^+$$

$$= \max_{q_i} \left\{ \text{Solve NLPDE}\left(\cancel{\text{Exotic}} + \sum_{i=1}^{\sim} q_i \, \text{vanilla}_i \right) - \sum_{i=1}^{\sim} q_i \, \text{costVanilla}_i \right\}$$

$q_i := 0$

$q_3 = -1$

Optimal Δ,

Can't lose money