The difficulty is $h \sim \exp$ conditional ~~conditioned~~ on the other max being $> v$, not the lattice max

So could derive on this distribution of $h \mid h - \frac{1}{2}t^2\lambda > v$??

Then lat max $= \underline{h - \frac{1}{2}t^2\lambda}$??

need to think about it

EC approximation gives $P(Y > v)$ for high v;

$\Rightarrow$ gives approximation to pdf at high v.

$$f = \frac{d}{dv}\left(1 - P(Y > v)\right)$$

Lat max $= h - \frac{1}{2}t^2\lambda$ pos

h

~~So for high~~ So can apply the EC approximation!

So $P(\text{lat max} > x) = \int$

$t > 0$
$\Rightarrow \boxed{x + \frac{1}{2}t^2\lambda > x}$

$h - \frac{1}{2}t^2\lambda > x$

$h > x + \frac{1}{2}t^2\lambda$

$0 \leq t \leq \frac{1}{2} \rightarrow$ in 1D!

$$\int_{\boxed{h = x + \frac{1}{2}t^2\lambda}}^{\infty} \int_{t=0}^{1/2} p(h, t)\, dh\, dt$$