1) Distribution of max is uniform. by symmetry

2) Conditioned on the height of the max / of at max.
distⁿ is still uniform by symmetry so height/DC is independent of the location.

3) $\xrightarrow{\text{eq}}$ $\mathbb{P}(\max \in B) = |B| / |S|$.

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4) HW distribution for the max are easy.

bic. $\mathbb{P}(B \text{ still to max}) = \lim_{\varepsilon \to 0} \dfrac{\mathbb{P}(B \text{ to } \max, \max \in B_\varepsilon)}{\mathbb{P}(\text{to max} \in B_\varepsilon)}$.

$= \mathbb{P}(B(\text{to}))$ eq by independence.

and $\mathbb{P}(\max \in B_\varepsilon) = |B_\varepsilon| / |S|$

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5) Should be able to derive asymptotic distribution for the max on the lattice using the elliptic paraboloid approximation

and especially at high thresholds
and for local max

Switch mirror (symmetry for Gaussian, t) but interesting results here for χ^2, F fields!