

## Boundary Crossings of Brownian Motion

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### Abstract

Let  $B$  be a standard Brownian motion and let  $b_\gamma$  be a piecewise linear continuous boundary function. In this paper we obtain an exact asymptotic expansion of  $P\{B(t) < b_\gamma(t), \text{ for all } t \in [0, 1]\}$  provided that the boundary function satisfies  $\lim_{\gamma \rightarrow \infty} b_\gamma(t^*) = -\infty$  for some  $t^* \in (0, 1]$ .

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