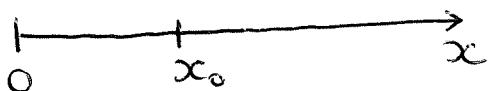


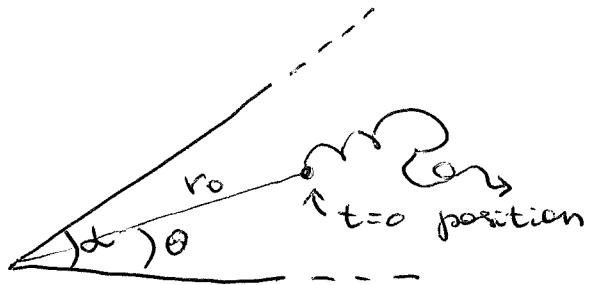
HW #2

- ① Consider a 1D semi-infinite interval with absorption at $x=0$:



Find the survival probability $S(t)$ for a particle that starts at $x_0 > 0$ at $t=0$. Sketch $S(t)$ and explain its asymptotic regimes.

- ② Consider a 2D semi-infinite wedge with absorbing boundaries:



Show that for a particle initially at angle θ and radial distance r_0 , the eventual exit probability to the upper boundary is $\frac{\theta}{\pi}$, and to the lower boundary $1 - \frac{\theta}{\pi}$. Note that these prob. are independent of r_0 !

- ③ Krapivsky & Redner Pr. 5.4 (sum-kernel aggregation)