Proposition 0.0.1. *Let W be a one-dimensional standard Brownian motion on a probability space $(\Omega, \mathcal{F}, \mathbb{P})$. For a real number $\gamma \in \mathbb{R}$, we define the process $\widetilde{W}$ by setting $\widetilde{W}_t = W_t - \gamma t$ for $t \in [0, T]$. Let the probability measure $\widetilde{\mathbb{P}}$, equivalent to $\mathbb{P}$ on $(\Omega, \mathcal{F}_T)$, be defined through the formula (see Definition 6.4.1 for $\mathcal{E}$)*

$$\eta_T = \frac{d\widetilde{\mathbb{P}}}{d\mathbb{P}} = \exp\left(\gamma W_T - \frac{1}{2}\gamma^2 T\right) = \mathcal{E}_T(\gamma W).$$

Then $\widetilde{W}$ is a standard Brownian motion on the probability space $(\Omega, \mathcal{F}, \widetilde{\mathbb{P}})$.