習題四

1. Ch. 10 10-1 For the eigenstate with higher eigenvalue, measure $S\_{z}$. What are (or is) the possible values? What are (or is) the corresponding probabilities?
2. Ch. 10 $\left|\left.α\right⟩\right.=\frac{1}{\sqrt{65}}\left(\begin{matrix}4\\7\end{matrix}\right)$，calculate the expectation value of $S\_{x}^{4}:\left⟨α\right⟩$.

Measure $S\_{x}$, what are (or is) the possible values? What are (or is) the corresponding probabilities?

Hint: The expansion components 分量 of $\left|\left.α\right⟩\right.$ along $\left|\left.x,\uparrow \right⟩\right.$ equals $\left⟨α\right⟩$.