

Worksheet # 7

(Wednesday, October 11, 2023)

Name**Questions (10 pts):**

Consider an observable A which is represented by the matrix $A = \begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix}$ in

some basis.

- 1) Is A Hermitian?

- 2) If we perform a measurement of A, what are the possible outcomes?

- 3) What are the possible states of the system after the measurement?

- 4) Can we tell anything about the probability of finding the system in each state?

- 5) Do the eigenstates of A form a basis (i.e. complete and orthonormal set) ?

Show.