## Worksheet \#20

(Wednesday, November 22, 2023)

## Name

## Question (5 pts):

Consider the number operator $\mathrm{N}=a^{\dagger} a$, where $a^{\dagger}$ and $a$ are creation and annihilation operators, respectively. Find the relationship between the Hamiltonian of the 1D harmonic oscillator and the number operator.

