

Number:

Name:

Exercise 7 (no submission required)

- 1) Show that the equalities in the purity inequality (236) are satisfied for the probability distributions given in Eq. (237).
- 2) Show that the Bell state in the y basis,

$$\frac{|+i+i\rangle + |-i-i\rangle}{\sqrt{2}} = \frac{|+i\rangle \otimes |+i\rangle + |-i\rangle \otimes |-i\rangle}{\sqrt{2}}$$

is identical to $|\Phi^-\rangle$.
