Quantum Information A   Fall 2020   Problem Set 5

Solutions are due in 4 pm on Tuesday Oct 6.

All problems are taken from Nielsen-Chuang, look them up from the book. By the way, the book has some errors, pointed out in an online Errata on Nielsen's website: http://michaelnielsen.org/blog/qcqi/errata/errata.pdf

1. Excercise 3.13 from the book.

2. Excercise 4.4 from the book.

3. Excercise 4.9 from the book.

4. Excercise 4.15 from the book. Note a typo (pointed out in the online Errata of the book): in Equations (4.20) and (4.22) the minus sign on the right-hand side should be a plus.

5. Excercise 4.20 from the book.

6. Excercise 4.23 from the book.

7. Voluntary problem: pretend to be Euler and prove his theorem (Exercise 3.20).