

## 3 Nielsen and Chuang - Chapter 01

### 3.1 Section 1.2

#### 3.1.1 Qubit representation in a Bloch Sphere

The explanation to the following formula is not given by the book.

$$|\psi\rangle = e^{i\gamma}(\cos\frac{\theta}{2}|0\rangle + e^{i\varphi}\sin\frac{\theta}{2}|1\rangle)$$

However, [Agnez](#) came up with a simple explanation using spherical coordinates. Its details can be found at [TODO: add link to Computer Society](#)

### 3.2 Section 1.4

#### 3.2.1 Deutsch's Algorithm

Add notes from step  $|\psi_1\rangle$  to step  $|\psi_2\rangle$  of the circuit.