CMSC 491 Introduction to Quantum Computation, VCU
Assignment: (Insert assignment number here)
Name: (Insert your name here)

1. Answer question 1 here.
2. Answer question 2 here, etc.... Here is some math, $3 - 4 = -1$, and here is an equation:

$$3^2 = 9 = 4 + 5 = \sum_{i=9}^{9} i. \tag{1}$$

3. This is a state vector $|\psi\rangle \in \alpha|0\rangle + \beta|1\rangle$ for $\alpha, \beta \in \mathbb{C}^2$ for $|\alpha|^2 + |\beta|^2 = 1$.
4. The inner product $\langle\psi|\phi\rangle = \sum_i \psi_i^* \phi_i$.
5. The outer product $|\psi\rangle\langle\psi|$ and tensor product $|\psi\rangle \otimes |\phi\rangle$.
6. Here is the trace $\mathrm{Tr}(\rho)$.