1. Prove the following:
   a) $\gamma_5$ is Hermitian.
   b) $(\gamma_5)^2 = 1$
   c) $\{\gamma^5, \gamma^\mu\} = 0$

2. Compute the following:
   a) $\text{Tr}[\gamma_5]$
   b) $\text{Tr}[\gamma_5\gamma^\mu\gamma^\nu\gamma^\rho\gamma^\sigma]$

3. Peskin and Schroeder problem 3.2

4. Peskin and Schroeder problem 3.3