

Homework Assignment #3 due Friday March 27

/4/ Prove...

/A/ $\gamma^0 (\gamma^\mu)^\dagger \gamma^0 = \gamma^\mu$

/B/ $\gamma^0 (S^{\mu\nu})^\dagger \gamma^0 = S^{\mu\nu}$ where $S^{\mu\nu} = \frac{i}{4} [\gamma^\mu, \gamma^\nu]$

These relations are needed to prove that $\bar{\psi} \psi$ is a scalar, *etc.*

/5/ Prove ...

/A/ $\bar{\psi} \gamma^\mu \psi$ is a vector.

/B/ $\bar{\psi} \gamma^5 \psi$ is a pseudoscalar.