1. Q&L 5-3
2. Q&L 5-15

3. Express the helicity eigenstates of an electron with mass $m$ and energy $E$, in terms of its chirality eigenstates by keeping the first order term in $m/E$, i.e. for the case when $m/E$ is small but not entirely negligible.

4. Use the above results to obtain the ratio of the branching ratio of $\pi \to e + \text{neutrino}$ to that of $\pi \to \mu + \text{neutrino}$, and for the ratio of the branching ratio of $K \to e + \text{neutrino}$ to that of $K \to \mu + \text{neutrino}$. 