

Question One.

Write all (Strange) 4x4 identity, alpha, beta, gamma and sigma matrices out as tensor products of 2x2 matrices identity and Pauli matrices. Are there some additional matrices that can be written as such tensor products and, if so, do you recognize them (as Strange matrices)?

Question Two.

Check Strange equations (4.19) a and b as well as the c and d version of these equations by mixing alphas and sigmas. Can you also complement Strange equations (4.20-4.21)?

Question Three.

Work out every step in the derivation of Strange equation (4.36).

Question Four.

Show that no 2x2 matrices can satisfy the requirements (4.8) in Strange.

Question Five.

What strikes you most in your first reading of Dirac's 1928 paper?