

Quantum Field Theory I: PHYS 721 (Autumn 2020)
Quick quiz—Thursday, October 1.

Instructions

These quick quizzes are low-stakes assessment tools to help cement your understanding of our material. They will help you remember the key facts and can serve as a study guide to help you focus on material you are less familiar with. These quizzes do not contribute to your grade and are for your own use.

1. **Without looking at your notes or the textbook, and without consulting with your physically-distanced neighbour**, write your answer to each question in the **first column**.
2. After our review and class discussion, answer each question and write your answers to each question in the **second column**. You should complete the second column, but do not add anything to your first column.

There are five questions.

Question 1

Spinors are four-component objects. Four-vectors are also four-component objects. What is the difference?

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Question 2

What is the mass dimension of a fermion field in d dimensions?

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Question 3

What is an invariant matrix element and why is it useful?

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Question 4

Write down the definition of the Clifford algebra. What does this have to do with electrons?

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Question 5

What is a group?

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