

PHYS 7325 Homework 3

Professor Halverson

Due: November 26, 2019

Note throughout that the integrals (7.85) and (7.86) in Peskin are very useful!

1. Dim Reg. We are spending a lot of time in class discussing dimensional regularization and renormalization. In this problem you will

- a) 5 points. Prove Peskin equation (10.29).
- b) 5 points. Prove Peskin equation (10.41).
- c) 5 points. Prove the equation above Peskin equation (10.44).

2. Properties of QED.

- a) 3 points. Prove Peskin equation (6.33).
- b) 3 points. Prove $\delta_1 = \delta_2$. See text following (10.46) in Peskin.