Problem Set 2 (20 August 2026)

Exercise 1:

Construct the leading-order ($\sim\lambda^4$) SCET Lagrangian in the presence of a quark mass with scaling a) $m\sim\lambda$ and b) $m\sim\lambda^2$.

Exercise 2:

Work out the analytic form of the solution of the RG evolution equation for the Wilson coefficient $C_V(\mu)$ at leading order in RG-improved perturbation theory.