

Problem Set 1 (due Aug 20, 2017)

1. **(Harmonic Oscillator)** Calculate the path integral of a harmonic oscillator by discretizing time in steps $\delta t = (t_f - t_i)/N$ and finally taking the limit $N \rightarrow \infty$
2. **(Reading)** Lowell Brown, QFT, Chapter 1, Sec 1.1 to 1.6
3. **(Driven harmonic oscillator)** Lowell Brown, QFT, Chapter 1, Question 1
4. **(Determinants)** Lowell Brown, QFT, Chapter 1, Question 2