Week 6 (due Nov. 8)

1. Problem 10.3 in Srednicki (10 pts).

2. Problem 10.4 in Srednicki (10 pts). (Hint: you can figure out the momentum -space Feynman rule for the vertex by computing the contribution of $\mathcal{L}_1$ to the 3-point Green's function to leading order in g. This can be done by first rewriting $\mathcal{L}_1$ in terms of Fourier-transformed fields and then applying Wick theorem in momentum space.)

3. Problem 10.5 in Srednicki (20 pts).