
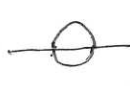


PROBLEM SET - 7.

(1) SHOW THAT IN $\lambda\phi^4$ theory, the second order in λ correction to the two point function comes from the following diagrams.

$$\begin{aligned}
 & 9 \text{---} \text{---} \text{---} \text{---} + 72 \text{---} \text{---} \text{---} + 24 \text{---} \text{---} \text{---} + 72 \text{---} \text{---} \text{---} \\
 & + 288 \text{---} \text{---} + 192 \text{---} \text{---} + 288 \text{---} \text{---}
 \end{aligned}$$

Get these symmetry factors correct.

For the diagrams  and , find the order of divergence in the loop integrals at large loop momenta.

(2) For $\lambda\phi^3$ interaction, show that the leading corrections to the two point function comes from the following diagrams



Find the symmetry factors for each.