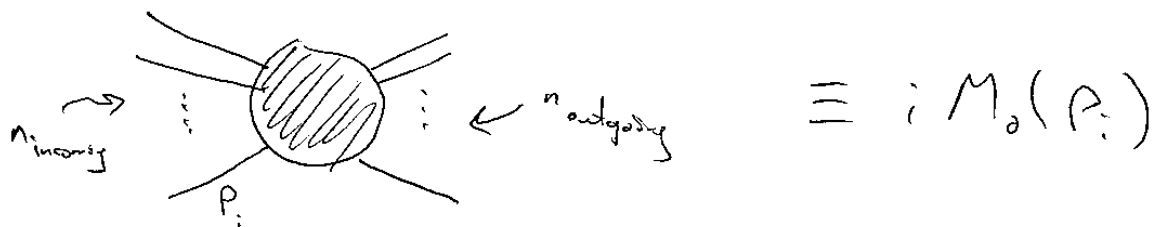
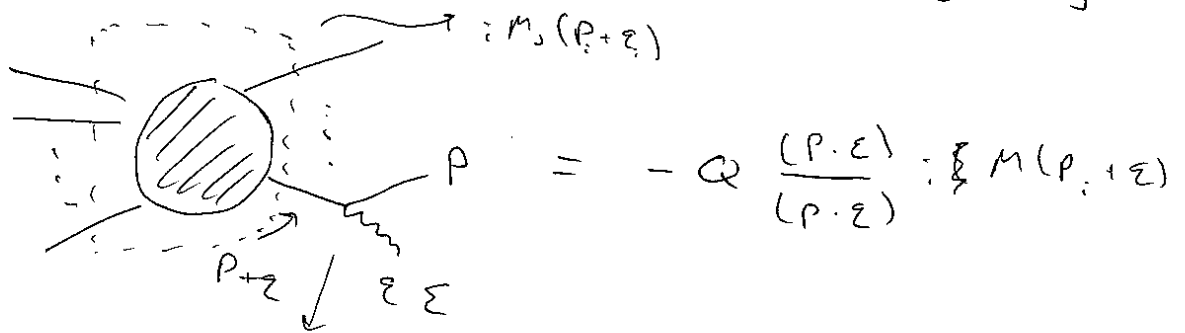


## Lecture 18

Now do the same thing to a more general interaction



A Feynman diagram showing two shaded interaction vertices connected by a wavy line representing a scalar particle. The left vertex has incoming lines labeled  $P$  and  $P - z$ , and an outgoing line labeled  $z$ . The right vertex has incoming lines labeled  $P_i$  and  $P_i - z$ , and an outgoing line labeled  $z$ . Arrows indicate the flow of momentum. To the right of the diagram, the expression  $i M_o(P_i - z)$  is written. Below the diagram, the propagator is shown as a wavy line with the label  $\frac{1}{(P - z)^2 - m^2}$ . To the right of the propagator, the expression  $= Q \frac{(P \cdot z)}{(P - z)} i M_o(P_i - z)$  is written. Below the propagator, the expression  $i(iQ) \frac{(\epsilon_\mu (P_i^\mu + (P_i^\mu - z^\mu)))}{(P_i - z)^2 - m^2}$  is written.



$$\frac{(-Q) \Sigma_1(p, \epsilon) + (p, \epsilon) \Sigma_1(p, \epsilon)}{(p+\epsilon)^2 - m^2}$$

