Questions

1. Has anyone ever seen the track of a Δ in their detector?

2. What is the Breit-Wigner form?

3. The Δ "seen" in πN (N = p or n) scattering. How big is the cross section on resonance relative to the unitarity bound? (cm momentum $\approx$ 230 MeV, $\sigma \approx$ 195 mb)

3. The Δ is listed with the following properties:
   a) m = 1230 MeV
   b) Γ = 110 MeV
   c) I = 3/2
   d) J = 3/2

What features of the cross section lead you to conclude that it exists and has each of these properties?

4. If, for a given process, I tell you that the matrix element is independent of the kinematic variables (within the kinematically allowed region), can you give me a formula for the differential corss section? What is it called?

5. How do you tell that there is a ρ in $\pi p \rightarrow \pi\pi p$?