1) H_0: There is no association between age-group and gender in the diagnosis of schizophrenia.

   H_A: There is an association between age-group and gender in the diagnosis of schizophrenia.

   (Note: must use words for hypothesis here (there are no symbols))

2) Chi-squared test of independence   (Note: Name the inference procedure)

   Conditions

   ✓ • data are counts
   ✓ • SRS? The problem states "random sample"
   ✓ • expected counts ≥5?

   expected counts $\begin{bmatrix} 56.9 & 36.2 & 17.2 & 8.6 \\ 42.09 & 26.8 & 12.75 & 6.38 \end{bmatrix}$ (lowest is 6.38)

3) perform a x^2-test in a TI-84

   result: $x^2 = 10.8838$

   p-value = .0124

   df = 3

4) With $\alpha = .05$, p-value = .0124 is low so we reject H_0. We do have sufficient statistical evidence to conclude that there is an association between age-group and gender in the diagnosis of schizophrenia.

↑
organize your work (top down, step-by-step)