True/False - No explanation needed. (2pts)

1. The degrees of freedom ν are 1 fewer than the number of measurements $x_1, \ldots, x_n$ because, even though σ_0 may be unknown, it is fixed for X, thereby yielding a quadratic relation between the x_i's and the sample mean $\bar{x}$. True/False

2. All the students should finish course evaluations. True/False

Problems - Need justification. No justification means **zero**!

Thanos claimed that the proportion of creatures integrated when he snap his finger depends on his snapping hand - left or right. He made an infinite-gauntlet-simulator to test his claim and he got the following results from experiments.

	Disintegrated Obs. freq.	Disintegrated Exp. freq.	Survived Obs. freq.	Survived Exp. freq.	Row Total
Left hand	15		25		
Right hand	35		25		
Column total					

1. What are H_0 and H_1? (3pts)

2. Fill out all the blanks in the above contingency table. (3pts)

3. Using χ^2-independency test, draw a conclusion under $\alpha = 0.05$. You may use $\chi^2_{k=1}(r = 3.84) = 0.95$ or $\chi^2_{k=1}(r = 0.004) = 0.05$. (4pts)