F) Restricted regression is one in which coefficients of some independent variables are assumed to be zero. In this question, we are discussing the significance of unionization which means we are appealing to the observations in regression #2. When we calculate an F test, we need to make sure that our unrestricted and restricted models are from the same set of observations. and as we read the question in bold that the very goal is "the importance (or lack thereof) of unionization on household earnings", we find this to satisfactory effect. The restricted model is where we to control HAge; & WAge; coefficients to test the coefficients of HUnion and WUnion. ∴ q as the number of restrictions is then 2 because HUnion and WUnion hold values of zero and k is the number of independent variables examined in regression #2, the unrestricted (original) model, so that's 4.

$$F = \frac{(R_u^2 - R_r^2)/q}{(1-R_u^2)/(n-k_u-1)} = \frac{[(.0441)^2 - (.0173)^2]/2}{(1-.0441^2)/(2574-4-1)} = \frac{.00082276}{.0003884994901} = 2.117789137$$

$P(F \leq 2.12) \Rightarrow 1$ Since 1.00 is less than 2.12, unionization can be said as statistically insignificant.