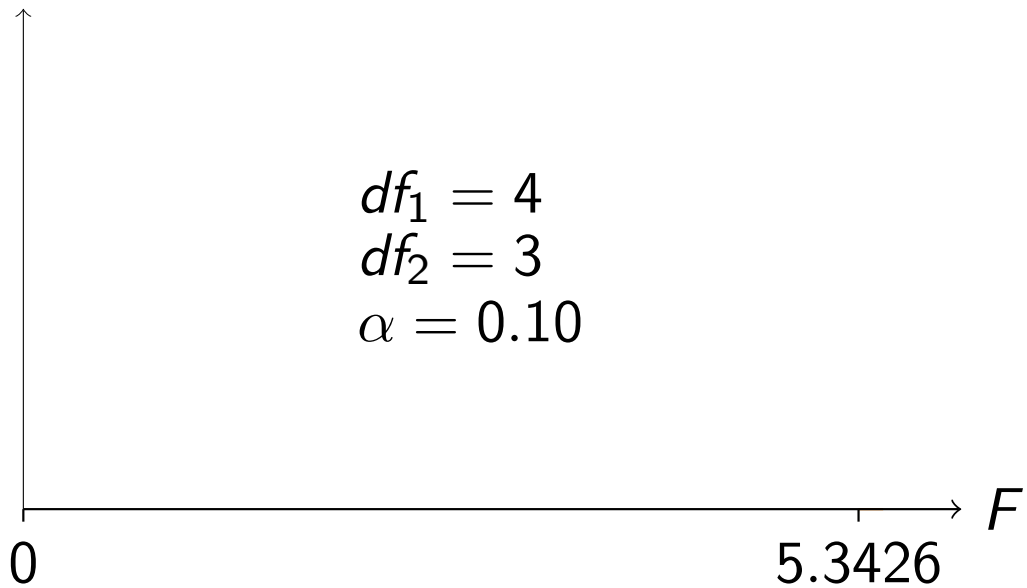
General form for the F distribution with ν_1 and ν_2 degrees of freedom:

$$f(F;\nu_1,\nu_2) = \frac{\Gamma\left(\frac{\nu_1+\nu_2}{2}\right)}{\Gamma\left(\frac{\nu_1}{2}\right)\Gamma\left(\frac{\nu_2}{2}\right)}\left(\frac{\nu_1}{\nu_2}\right)^{\frac{\nu_1}{2}}\frac{F^{\frac{\nu_1-2}{2}}}{\left[1+\left(\frac{\nu_1}{\nu_2}\right)F\right]^{\frac{\nu_1+\nu_2}{2}}}$$

Critical region for an F test for various degrees of freedom:



Statistical power in hypothesis testing: