

# Homework 3 (due 2 February 2017)

Bi177-2017

name \_\_\_\_\_

Since confocal microscopy is very photon starved, it is important to get objectives that are bright.

For this assignment let's assume you have a 10x objective with an N.A. of 0.3. Calculate the N.A. a 20x, 40x and 60x would need to have to be as bright as this 10x.

Do the same for a 10x with an N.A. of 0.5. Also note if the 20x, 40x or 60x would be a dry, water or oil objective.

Hint - Assume Brightness for fluorescence equals  $NA^4 / Mag^2$