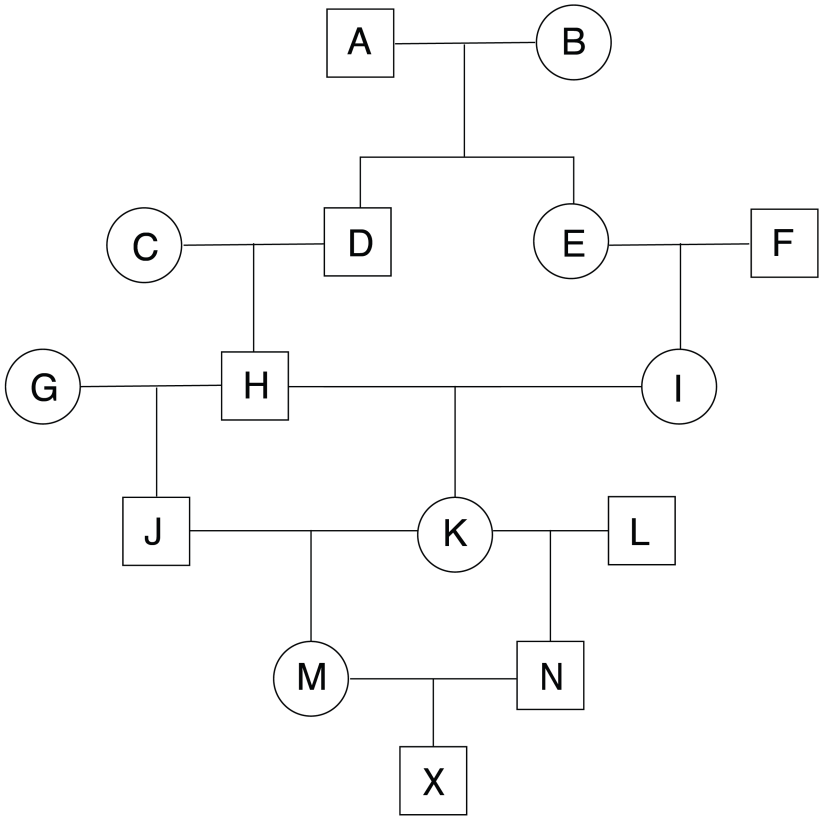
Conservation Genetics Practice Problems #8

1) Calculate the inbreeding coefficient for X given the following pedigree:



2) Despite the best efforts of your loved ones, you have decided to pursue a Ph.D. on the consequences of founder effects (population bottlenecks associated with colonization of new environments) in three-spined stickleback. Assume lateral plate number is under simple genetic control, with dominant homozygotes having 3 plates, heterozygotes 7 plates, and recessive homozygotes 8 plates. Calculate the expected population-wide mean plate number in an outcrossed population (M_O) and an inbred population (M_F) if $F = 0.1$. (Remember that a, d, and $-a$ ar deviations from a midpoint and must be rescaled to get actual trait values.)