5.
a) Polynomial Regression takes longer to train because you have to calculate the weights with all the n_features for every degree+1 and every n1 row. To train KNN, you just need to X_train which is a matrix n1 by n_features and it's corresponding target which is n1 by 1 and don't need any calculations.

b) KNN takes longer to predict because for each new example of n2, the algorithm must calculate the distances for each n1 to find the nearest neighbors (n1*n2 number of calculations) and then aggregates the neighbors (n2 calculations). This means KNN does at least n1*n2+n2 number of calculation to test. Polynomial regression only has to plug in the new example of n2 into the trained weighted model so it only has to n2 number of calculations.

c) KNN would require a bigger file because you would send the whole training set (n1 by n_features matrix and n1 target array) while regression you only need to send the weights (degree+1 by 1 matrix).