PROBLEM SET 6 (DUE ON THURSDAY, OCT 22)

(All Exercises are references to the November 18, 2017 version of *Foundations of Algebraic Geometry* by R. Vakil.)

Problem 1. Exercise 5.2.I (restriction maps on integral schemes are inclusions)

Problem 2. Exercise 5.3.C (integrality conditions for Noetherian schemes)

Problem 3. Exercise 7.3.C(a) (quasicompactness is affine-local on the target)

Problem 4. Give an example of two integral schemes X_1, X_2 such that their function fields $K(X_1)$, $K(X_2)$ are isomorphic even though the two schemes cannot be glued together to make a single integral scheme (i.e. they don't have isomorphic nonempty open subschemes).