Homework exercises for lecture #7

TO BE HANDED IN ON MARCH 23.

 (From Tamme) Let X be a scheme and we consider sheaves on the étale site.

1. Show that the two sheaves μ_n and $\mathbb{Z}/n\mathbb{Z}$ are isomorphic iff there exist a primitive n:th root of unity on X.

2. Say that the characteristic of the residue field to any point of X does not divide n. Show then that the sheaves μ_n and $\mathbb{Z}/n\mathbb{Z}$ are locally isomorphic.