Homework (due Monday 25 August)

1) From the book: page 28: 7,10,13,15,17,20,22,25

2) Show that between any two rationals there are infinitely many other rationals.

3) Show that the equivalence classes of an equivalence relation $\cong$ on a set X form a partition of X into disjoint subsets. And conversely if $X = \coprod_\alpha Y_\alpha$ then if we define $\cong$ by $x \cong y \iff \{x, y\} \subseteq Y_\alpha$ for some α, show that $\cong$ is an equivalence relation.