

**Math 215: Introduction to Advanced Mathematics**  
Problem Set 8

**Due: Friday November 2**

Do the following problems from the text: pg 117-118: 20, 21 i) ; pg 273: 17

1) Let  $X$  be any set. Define a binary relation  $\sim$  on  $\mathcal{P}(X)$  by  $A \sim B$  if and only if there is a bijection  $f : A \rightarrow B$ . Prove that  $\sim$  is an equivalence relation.

2) Let  $A = \{a, b, c\}$ . Describe all partitions of  $A$ .