

Homework 10 (Due Tues, Apr 15)

Math 2710 – Spring 2014

Professor Hohn

Using the proof techniques we have learned in class, prove each statement.

1. * Let A and B be sets. Prove the following:
 - (a) $\#(A \times B) = \#(B \times A)$
 - (b) If a is an element, then $\#(\{a\} \times B) = \#B$.
2. * Let S and T be sets. We say that $\#S \leq \#T$ if there exists an injection $f : S \rightarrow T$. Is “ \leq ” in this sense an equivalence relation? If so, prove it. If not, show a counterexample.