

## Set Theory Home Work 3

1. 3.11.1(B)
2. Lemma 3.4.2.
3. Lemma 3.4.3.
4. Lemma 3.4.4.
5. Lemma 3.4.5.
6. Lemma 3.5.1 (ii)
7. Suppose  $\alpha > 0$  and  $\beta$  are ordinals. Let  $A$  be the set of functions  $f: \beta \rightarrow \alpha$  such that  $f(x) > 0$  for at most finitely many  $x$ . Define  $f < g$  if  $f(x) < g(x)$  for the largest  $x$  such that  $f(x) \neq g(x)$  and  $(f(x) > 0$  or  $g(x) > 0)$ . Show that  $<$  is a well-ordering of the set  $A$ .