

Examlet 3b Foundations of Advanced Math 3/29/13

1. a) Give an example of a function (specifying its domain and codomain) which is even.

b) Let f and g be bounded functions, both with domain D . Then $f + g$ is a bounded function.

2. a) State the definition of a surjection.

b) Give an example of a function from \mathbb{N} to \mathbb{N} which is surjective, but not injective.

3. If $f:A \rightarrow B$ and $g:B \rightarrow C$ are injective functions, then $g \circ f$ is injective.

4. If $f: A \rightarrow B$ has an inverse function g , then g has f as an inverse function also.

5. a) Any two countable sets are equipollent.

b) Any two denumerable sets are equipollent.

