

1. Let  $f : \mathbb{N} \rightarrow \mathbb{N}$  via  $x \mapsto 2x$

(a) Show  $f$  is injective (one to one)

(b) Show  $f$  is not surjective (onto)

2. Let  $f : \mathbb{R} \setminus \{1\} \rightarrow \mathbb{R} \setminus \{1\}$  via  $x \mapsto \frac{x}{x-1}$

(a) Show  $f$  is injective

(b) Show  $f$  is surjective