

## Are these functions?

Consider each of the following mappings... and determine which ones are functions.

Let People denote the set of all people who have ever lived. For each mapping, consider whether it satisfies the requirements for being a function.

- ▶  $F$  is a mapping from People to People that has the ordered pair  $(x, y)$  if and only if  $x$  is the mother of  $y$
- ▶  $F$  is a mapping from People to People that has the ordered pair  $(x, y)$  if and only if  $x$  is the child of  $y$
- ▶  $F$  is a mapping from  $\mathbb{R}^+$  to  $\mathbb{R}$  that has the ordered pair  $(x, y)$  if and only if  $y = x^2$ .
- ▶  $F$  is a mapping from  $\mathbb{R}^+$  to  $\mathbb{R}$  that has the ordered pair  $(x, y)$  if and only if  $x = y^2$ .