

**Sections 5.2** One-to-one and Onto

A function  $f : A \rightarrow B$  is onto  $B$  (or is a surjection) iff  $\text{rng}(f) = B$ .

A function  $f : A \rightarrow B$  is one-to-one (or is an injection) iff whenever  $f(x) = f(y)$ , then  $x = y$ .