

**Definition:** A function  $f : D \rightarrow C$  is **onto** (or surjective) means for every  $b$  in the codomain, there is an element  $a$  in the domain with  $f(a) = b$ . Formally,  $f : D \rightarrow C$  is onto means \_\_\_\_\_.

**Definition:** For sets  $A, B$ , we say that **the cardinality of  $A$  is no smaller than the cardinality of  $B$** , and write  $|A| \geq |B|$ , to mean there is an onto function with domain  $A$  and codomain  $B$ .