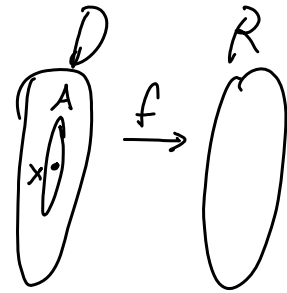


Assignment #5 due Wednesday 10/19 by 5pm.

Assignment #6 due Wednesday 10/26 by 5pm

Assignment 5

2a Prove that  $A \subseteq f^{-1}(f(A))$ .



proof

Let  $x \in A$ . We need to show that  $x \in f^{-1}(f(A))$ .

---

All that's required for this proof is to use the definition of image once and " " " preimage " .

---

Some ideas to remember.

① Def:  $f(A) = \{f(x) \mid x \in A\}$

True If  $x \in A$ , then  $f(x) \in f(A)$ .

False If  $f(x) \in f(A)$ , then  $x \in A$ .

② Def  $f^{-1}(B) = \{x \mid f(x) \in B\}$

True  $x \in f^{-1}(B)$  if and only if  $f(x) \in B$ .