

Lecture: Homework # 18  
(due Monday, April 13)

1. Let  $A_n = \{x \in \mathbb{R} \mid -n < x \leq 1/n\}$ .  
Find  $\bigcup_{n=1}^{\infty} A_n$  and  $\bigcap_{n=1}^{\infty} A_n$  and prove your answers
2. Do # 1(i), (ii), (iii) (justify your answers), # 2 on pp. 169 - 170 in the textbook.
3. Provide an example of
  - a) bijective function  $f: \mathbb{Z} \rightarrow \mathbb{N}$ ;
  - b) surjective function  $g: (0, 1) \rightarrow \mathbb{R}$ .

















