

HW 3-3

- ① Suppose $A \subset \mathbb{R}$, $c \in \mathbb{R}$, $a_n \in A \setminus \{c\}$, and $\lim_{n \rightarrow \infty} a_n = c$.
Prove that c is a cluster point of A .
- ② Give an example of $A \subset \mathbb{R}$ whose cluster points constitute the set \mathbb{Z} .
- ③ Suppose $B \subset \mathbb{R}$ is such that every rational $c \in \mathbb{R}$ is its cluster point. Prove that then every real c is a cluster point of B .