

## HW 2-13

- ① Suppose two sequences  $(x_n), (y_n)$  diverge. Does it follow that  $(x_n + y_n)$  diverges?
- ② Consider a bounded sequence  $(a_k)$  and a sequence  $(b_k)$  that converges to 0. Prove that  $a_k b_k \rightarrow 0$  ( $k \rightarrow \infty$ ).