

**Analysis I — Quiz 8**  
**30.11.10**

**Q8.1.** Let  $f : \mathbb{R} \rightarrow \mathbb{R}$  be differentiable. Prove or provide a counterexample.

- (a) If  $f'(x) > 0$  for all  $x \in \mathbb{R}$ , then  $f$  is strictly monotonically increasing.
- (b) If  $f$  is strictly monotonically increasing, then  $f'(x) > 0$  for all  $x \in \mathbb{R}$ .