

Assignment 5

Due Tuesday 21st

Q 1. Write out all the details to prove
if $a = \text{l.u.b. } \{x : x^2 < 2\}$, then
 $a^2 = 2$.

Q 2. The integers $\mathbb{Z}$ are not well ordered for the usual order. Give them a different order in which they are well ordered.

Q 3. If $\lim_{n \rightarrow \infty} a_n = a$ and $\lim_{n \rightarrow \infty} a_n = b$
show $a = b$.

Q 4. If $\lim_{n \rightarrow \infty} a_n = a$, and $\lim_{n \rightarrow \infty} b_n = b$
show $\lim_{n \rightarrow \infty} a_n b_n = ab$