Homework 6

Available | Friday, February 5 | Due | Friday, February 12

Turn in the homework by 5:00pm on Friday, February 12, in the homework box in the basement of AP&M. Late homework will not be accepted.

1. Exercise 3.4, p. 78 in Rudin.

2. Exercise 3.6, p. 78 in Rudin.

3. Exercise 3.14(a,b,c), p. 80 in Rudin.

2. Let \( (z_n) \) be a sequence in \( \mathbb{C} \). Show that \( (z_n) \) converges iff the two real sequences \( (\text{Re}(z_n)) \) and \( (\text{Im}(z_n)) \) converge, in which case

\[
\lim_{n \to \infty} z_n = \lim_{n \to \infty} \text{Re}(z_n) + i \lim_{n \to \infty} \text{Im}(z_n).
\]