

M331

Ass't #6 Part I

due Mon Mar 31/08

1. Decide if the following sets are open, closed, bounded and/or compact. Briefly explain.

(a) $\{1\} \cup [2, \infty)$

(b) $\{x: 1 < |x| < 3\}$

(c) $\mathbb{Z} \cap (-10, 10)$

(d) $\left\{ \frac{1}{n} : n = 1, 2, 3, \dots \right\}$

2. Give an example of closed sets $E_n, n=1, 2, 3, \dots$ st. $\bigcup_{n=1}^{\infty} E_n$ is not closed.

3. p. 105 # 33

4. p. 105 # 30, 31