

**MATH 241: ANALYSIS IN SEVERAL REAL VARIABLES I**  
**QUICK RESPONSE #3**

Name:

**Problem 1.** Label each of these sets as open, closed, neither, or both.

(a)  $\mathbb{Q}$

open      closed      neither      both

(b)  $\{x \in \mathbb{R} : x > 0\}$

open      closed      neither      both

(c)  $\mathbb{Z}$

open      closed      neither      both

(d)  $\{1/(n+1) : n \in \mathbb{N}\}$

open      closed      neither      both

(e)  $\bigcap_{n=1}^{\infty} (0, 1/n)$

open      closed      neither      both