

ICS 253–Discrete Structures I, Winter 2008**Quiz: 3****Section: 2****Time: 10 minutes**

Name:

ID#:

Question 1: [8 marks]a) Prove that $(A - B^c)^c = A^c \cup B^c$.b) Find $\mathcal{P}(\{a, \{\phi\}\})$.c) Let $A_i = (-i, i)$, for $i = 0, 1, 2, \dots, n$. Find

$$\bigcap_{i=0}^n A_i =$$

$$\text{and } \bigcup_{i=0}^n A_i =$$

Question 2: [2 marks]Prove or disprove that if m and n are positive integers, then $m^2 + n^2 > 2mn$.