

MA1971

Name: _____

Quiz 2

D Term, 2013

Show all work needed to reach your answers.

1. (4 points) Suppose $S = (1, 3) \cup [4, 7]$. What is $S_{\mathbb{R}}^c$?

$$S_{\mathbb{R}}^c = \underline{\hspace{10em}}$$

2. (4 points) If X and Y are disjoint sets, what is $X \cap Y$?

$$X \cap Y = \underline{\hspace{10em}}$$

3. (6 points) Please prove the following: If A and B are sets, then $A \subseteq B$ iff $\mathcal{P}(A) \subseteq \mathcal{P}(B)$

4. (6 points) Please prove the following: If A and B are sets contained in some universe U , then

$$A \cup B^c \subseteq (A^c \cap B)^c$$