

Homework Assignment to be Handed In # 3

First Submission Due: 2-28-06

Final Submission Due: 3-16-06

Please hand in the following problems:

- (1) Give an example, if there is one, of each of the following. If there is no example, write “Not possible.”
 - (a) A set A such that $\mathcal{P}(A)$ has 64 elements.
 - (b) Sets A and B such that $A \subseteq B$, and $\mathcal{P}(B) \subseteq \mathcal{P}(A)$.
 - (c) A set A such that $\mathcal{P}(A) = \emptyset$.
 - (d) Sets A , B , and C such that $A \subseteq B$, $B \subseteq C$, and $\mathcal{P}(A) \subseteq \mathcal{P}(C)$.
- (2) Prove that if $x \notin B$ and $A \subseteq B$, then $x \notin A$.