Math 2001: PHW2

1. Consider the set of positive integers which give a remainder of 3 when divided by 4. Give two different descriptions of this set using set-builder notation.

2. From the book do problems:

   (a) 1.1.A (numbers 4, 8, 12, 16)

   (b) 1.5.2, 1.6.6, 1.7.10, 1.7.14

3. Give examples of the following, or explain why they do not exist.

   (a) An infinite set with a finite number of subsets,

   (b) A finite set with an infinite number of subsets,

   (c) A finite set with the same number of subsets and elements.

4. Let A be a set, and let $B = P(A)$ be the power set of A. Is $A \in B$ or $A \subseteq B$? Justify your answer.