May 17, 2005 Homework

1. For each of the sets shown below, determine the following:
   - Identify the rule defining the set, i.e., what is the blank in
     $A = \{a \mid \underline{\hspace{2cm}}\}$.
   - Identify the universal set.
   - Determine if the set is finite or infinite.
   - Calculate the cardinality of the set.
   - If the set is finite, calculate the number of sets in the power set.

   a.) $A = \{y, e, s\}$
   b.) $A = \{1, 3, 5, 7, 9, 11, 13, \ldots\}$
   c.) $A = \{1, 0.5, 0.25, 0.125, 0.0625, \ldots\}$
   d.) $A = \{a, f, n, o, r, t\}$

2. Draw a Venn diagram to show how A could be contained in B and C could be contained in B, but A and C share no common elements.