Name: ______________________________

Math 166 - Theory of Computability - Winter 1999

Quiz #3 — January 28

1. Use the alphabet $\Sigma = \{a, b, c\}$. For each of the three languages below, draw the state diagram for an NFA which recognizes that language. (Each NFA can be built with only one or two states.)

   (a) $L_1 = \{\varepsilon\}$.

   (b) $L_2 = \emptyset$ (the empty language).

   (c) $L_3 = \{w \in \Sigma^* : |w| = 1\}$

2. Draw the state diagram for an DFA which is equivalent to the following NFA. (Use the back of the page if you need more room.)