1) Use the truth tables to determine whether the argument forms are valid:

   a)  
   \[ p \rightarrow q \]
   \[ q \rightarrow p \]
   \[ \therefore p \lor q \]

   b)  
   \[ p \]
   \[ p \rightarrow q \]
   \[ \sim q \lor r \]
   \[ \therefore r \]

2) Sharky, a leader of the underworld, was killed by one of his own band of henchmen. Detective Sharp interviewed the men and determined that all were lying except for one. He decided who killed Sharky on the basis of the following statements:

   a. Socko: Lefty killed Sharky
   b. Fats: Muscles didn't kill Sharky
   c. Lefty: Muscles was shooting craps with Socko when Sharky was knocked off.
   d. Muscles: Lefty didn't kill Sharky.

WHO KILLED SHARKY?