Consider the statement:
(S1) Every computer on a network has an administrator.

(a) State whether (S1) is true or false. If it is false, then justify your answer by citing a specific counterexample.

False, Computer 5 is a counterexample, because it is on a network but it does not have an administrator.

(b) Write (S1) in precise symbolic notation.

Let $C =$ set of all computers
Let $N(c) = c$ is on a network
Let $A(c) = c$ has an administrator
\[ \forall c \in C, N(c) \rightarrow A(c) \]

(c) Write the contrapositive of (S1) in English and in precise symbolic notation.

If a computer does not have an administrator, then it is not on a network.

Let $C =$ set of all computers
Let $N(c) = c$ is on a network
Let $A(c) = c$ has an administrator
\[ \forall c \in C, \neg A(c) \rightarrow \neg N(c) \]