Consider the statement:
(S1) All computers on a WAN are not on a LAN.

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

False, Computer 3 is a counterexample, because it is on a WAN and a LAN.

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

Let $C =$ set of all computers
Let $L(c) =$ c is on a LAN
Let $W(c) =$ c is on a WAN
$\forall c \in C, W(c) \rightarrow \neg L(c)$

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

If a computer is not on a LAN, then the computer is on a WAN.
Let $C =$ set of all computers
Let $L(c) =$ c is on a LAN
Let $W(c) =$ c is on a WAN
$\forall c \in C, \neg L(c) \rightarrow W(c)$