## Logic Tutorial 1 Solutions

a. t
b. t∧r
c. r∧¬h
d. ¬r∧¬h
e. ¬(r∧h)
f. r→h or h←r
g. r→h or h←r
h. h→r or ¬(h∧¬r)
i. r↔h or (r→h)∧(h→r)
j. ¬r→¬h

In general
"P unless Q" is often translated to
"P if notQ", i.e.
¬Q→P or
P←¬Q.



k. ¬s→¬g
l. b∨w
¬(b∧w)
b∧w→
l∧d∧c→f∨p
l∧d∧¬c→fa∧cr





Alternatively the last two sentences can be formalised as:

l∧d→(c→f∨p) ∧(¬c→fa∧cr)

m.

A∧¬B→C
B→C
C→¬(B→A)
A∨B∨C