

Logic Worksheet 5

Your name:	Mark (out of 5):
Logic class (A–F):	
Logic class tutor:	

Read §§25–29 of forallx:Cambridge, then complete the following exercises. Some exercises are marked with a ‘*’; techniques to answer these will be covered in the lecture on the day before the worksheet is due.

Self-marked exercises

Do the following practice exercises from forallx:Cambridge.

- §26 Part A and Part B, those parts not involving ‘¬’
- §26 Part C 3–6
- * §26 Part C 9–12
- * §27 Part A
- * §27 Part B

When you have completed these, carefully check your answers against the answers available at www.nottub.com/forallx.shtml. Correct your own work *in red*, for the marker to review. In the box below, write something that you now firmly understand, as a result of doing these exercises:

Understand:

And in this box, write something that you want to know more about:

Want more about:

Further exercises

A. Give a proof for each of the following arguments:

1. $A \rightarrow B, C \rightarrow D \therefore (A \wedge C) \rightarrow (B \wedge D)$
2. $F \rightarrow (G \vee H), G \leftrightarrow I, H \leftrightarrow I \therefore F \rightarrow (G \wedge (H \wedge I))$
3. $\star \neg D, \neg D \rightarrow (C \vee D) \therefore C$
4. $\star P \rightarrow Q, \neg P \vee \neg Q \therefore \neg P$
5. $\star A \vee (B \rightarrow A) \therefore \neg A \rightarrow \neg B$
6. $\star A \vee B, \neg A \vee C, \neg B \vee D \therefore C \vee D$

warning: long!

warning: tricky!