

Logic Worksheet 1

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

Read §§1–5 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.

- §1 (just write the conclusion)
- §2 Parts A and B
- §3 Part A
- * §5 Parts D and E

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. Could there be:

1. Jointly inconsistent sentences, all of which are true?
2. Jointly inconsistent sentences, all of which are false?
3. A valid argument, all of whose premises are inconsistent?
4. An invalid argument, where the premises of the argument together with the conclusion are inconsistent?

In each case: if so, given an example; if not, explain why not.

B. ★ Using the following symbolisation key:

- B*: Businesses will do something (about climate change)
- C*: Climate change will occur
- D*: The world is doomed
- E*: We cut carbon emissions by 60%
- G*: Governments intervene (on climate change)
- S*: Scientists are right (about climate change)

Symbolise the following sentences:

1. Businesses will not do anything and climate change will occur.
2. Scientists are right: in the event of climate change, the world is doomed.
3. If governments do not intervene, then businesses will do nothing and the world is doomed.
4. The world is doomed, since we will not cut carbon emissions by 60% whether or not governments intervene.
5. Only if businesses do something will we cut carbon emissions by 60%.
6. If scientists are right, then we will avoid climate change if and only if we cut carbon emissions by 60%.
7. Without government intervention, we are doomed unless scientists are wrong.
8. There are only two options, and they are exclusive: either we cut carbon emissions by 60%, or the world is doomed.