1A Logic: Worksheet 2	5	*Excellent*	
	4	*Good*	
Your name:	3	*Satisfactory*	
Logic class (A/B/C/D/E):	2	*Weak*	
Logic class tutor:	1	*Very poor*	

Reading

Read *Introduction to Formal Logic*, Chapters 7–10, §§11.1–11.5, Chapter 12. NB we haven't covered and *won't* cover the Chapter 10 material in lectures: you are on your own on the topic of quotation, so do read that important chapter particularly carefully!

Do the following exercises as instructed, and firmly clip/staple this cover sheet to the front of your work (include your work for the self-marked Section 1).

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1 Exercises from the Book

Do the following questions from the end-of-chapter exercises in *An Introduction to Formal Logic*. Then, when you have completed them, carefully check your answers against the answers available on the book's website at `www.logicmatters.net`. Correct your own work *in red*, for the marker to review. In the box below, note any residual queries or problems you have with these self-marked exercises (use a continuation sheet if you have more queries than you can mention here). Take disjunctions to be inclusive!

Exercises 7 (p. 62): Qns B2–B5, B7.
Exercises 9 (pp. 80-81): Qns A3–A7, B1–B4, C3–C5, C8.
Exercises 10 (p. 87): Qns 1–8.
Exercises 12 (p. 106): Qns 1, 2, 4.

Queries

Is there a continuation sheet with more queries? Yes/No

2 Further exercises

A Which of the following are wffs of PL? Tick the wffs. In the case of non-wffs, repair by inserting the minimum required number of brackets to get a wff [not in black, please!]. Circle the main connective of each wff. You can give your answers on this sheet.

1. $(P \wedge (Q \vee R)$
2. $\neg\neg(P \vee P \vee P))$

3. $P \wedge \neg(R \vee S)$
4. $\neg(P \wedge \neg(Q \wedge \neg\neg R))$
5. $(\neg(P \wedge (Q \vee S)) \vee \neg(Q \wedge \neg\neg R))$

B Suppose that

P is false, Q is true, R is true, S is false

Now calculate the truth values of each of the following wffs. Use the short form working as in *IFL* §9.6, using shortcuts as in §11.5: attach a sheet that shows your working.

1. $(\neg(R \wedge S) \vee \neg Q)$
2. $\neg((P \wedge \neg R) \vee R)$
3. $((P \wedge \neg Q) \vee \neg\neg R)$
4. $\neg\neg((P \wedge Q) \vee (\neg P \vee \neg Q))$
5. $((((P \vee P) \wedge R) \wedge Q) \vee (\neg(R \wedge S) \vee \neg Q))$

C Where necessary, insert quotation marks into the following (on this sheet) so they come out true on the customary conventions:

1. Some logic texts use & instead of $\wedge$.
2. In **PL**, P could mean what Socrates is wise means in English.
3. On one reading of **PL**, P takes the truth-value True if and only if Socrates is wise.
4. Even Inspector Morse's friends call Morse Morse.

Also insert quotation marks into the following so the limerick says something correct and sensible:

According to W. Quine,
Whose views on quotation are fine,
Boston names Boston,
And Boston names Boston,
But 9 doesn't designate 9.

Question for discussion in class How is the notion of a tautology defined? What is the relation between the notions of being a tautology, being analytic, being necessarily true, and being a priori?