

CSCI 1323 (Discrete Structures), Spring 2013

Homework 1

Credit: 30 points.

1 Reading

Be sure you have read sections 1.1 and 1.2 of the textbook.

2 Problems

Do the following problems. You do not need to turn in answers for the ones marked “Not to turn in”. Most such problems will be those for which the textbook provides an answer in the back of the book, so you can check your work.

1. (Not to turn in) Do problem 5 on p. 14 of the textbook.
2. (Not to turn in) Do problem 12 on p. 16 of the textbook.
3. (5 points) Using letters for the component statements, translate the following statements into symbolic notation:
 - (a) Either the sky is blue or the sky is not blue.
 - (b) Fred will graduate this year if and only if he passes all his courses this semester.
 - (c) If it is raining and the convertible’s top is down, the seats will get wet.
 - (d) Either Sally will pass all her courses and graduate or she will start her own company.
4. (Not to turn in) Do problem 17, parts (a) and (b), on p. 17 of the textbook.
5. (Not to turn in) Do problem 20, part (c), on p. 17 of the textbook.
6. (5 points) Verify distributive property 3a on p. 8 of the textbook *by constructing a truth table*.
7. (5 points) Do problem 23 on p. 17 of the textbook.
8. (5 points) Do problem 26 on p. 17 of the textbook.
9. (Not to turn in) Do problem 42 on p. 20 of the textbook. First translate the English sentences into symbolic notation.
10. (Not to turn in) Do problem 10 on p. 32 of the textbook.
11. (Not to turn in) Do problem 13 or problem 15 on p. 32 of the textbook. (Notice that you should not use the additional rules on p. 33 for these problems.)
12. (Not to turn in) Do problem 23 on p. 33 or problem 29 on p. 33 of the textbook. (Notice that you should not use the additional rules on p. 33 for these problems.)

13. (Not to turn in) Do problem 33 on p. 33 of the textbook.
14. (5 points) Do problem 34 on p. 33 of the textbook.
15. (Not to turn in) Do problem 45 on p. 34 of the textbook.
16. (5 points) Do problem 43 on p. 34 of the textbook.