Homework 1

This homework assignment consists of problems from the textbook Rosen, 7th edition (– if you are using an earlier edition, it is your responsibility to make sure that you have the correct problems). The homework should be submitted as a PDF through Gradescope (see instructions on course site for more details). We strongly prefer students to compose homework solutions using a word processor (Google docs or MS Word), or ideally using LaTeX, but we will accept handwritten homework submissions scanned/photographed and converted to PDF. Note that submitted files must be less than 50mb in size, but they really should be much smaller than this. No email or Piazza regrade requests will be accepted. For more detail on regrade requests, please refer to course policies.

****For multi-part problems (i.e., those containing parts a, b, etc.), if we do not specify which parts you must complete, then you are expected to complete all parts.****
*****Unless explicitly specified below, you must provide some sort of explanation or justification for yes/no, true/false, multiple choice, and any other questions where it may be tempting to put down just the answer. Answers only will receive little or no credit.*****

Problems

Section	Page	Problem	Points
1.1	15	28 (a, b) “State the converse, contrapositive, and inverse of each of...”	4
	15	32 (c, e) “Construct a truth table for each of these ...”	4
1.2	22	4 “To use the wireless network in the airport you must pay the daily fee…”	2
	22	6 “You can upgrade your operating system only if you have…”	2
	24	34 “Five friends have access to a chat room…”	4
1.3	35	26 “Show that ~p -> (q -> r) and ....”	4
	36	60 “Show that the negation of an unsatisfiable compound proposition is …”	4
1.4	53	12 (a, e, f, g) “Let Q(x) be the statement ‘x+1 > 2x’. If the domain …” Briefly justify your answers	4

	55	40 (b, c) “Express each of these system specifications using predicates, quantifiers, and logical connectives. b) No directories in …”	2
1.5	67	26 (e, f, g, h, i) “Let Q(x) be the statement ‘x + y = x - y’. If the domain …” Briefly justify your answers	5
		32 (b, c, d) “Express the negations of each of these statements …” Note: be sure to show intermediate steps	3

Due January 18, 11:59 pm. No late homework accepted.

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