

Homework 2

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
1.6	79	16 "For each of these arguments determine whether the argument is correct..."	4
	80	28 "Use rules of inference to show that if $\forall x(P(x) \vee \dots$ " [Use Nature Deduction Instead!]	4
		Prove: [[Use Nature Deduction] $(p \rightarrow r) \quad (\neg p \rightarrow q)$ <hr/> $q \vee r$	4
1.7	91	6 "Use a direct proof to show that the product of two odd numbers is odd"	2
	91	18 "Prove that if n is an integer and $3n + 2$ is even"	4
	91	26 "Prove that if n is a positive integer, then n is even if and only if $7n+4$ is even."	2
1.8	108	16 "Show that if $a, b,$ and c are real numbers and a not equal to 0 ..."	2

	108	28 “Formulate a conjecture about the final two decimal digits of the square of an integer. Prove your conjecture using a proof by cases.”	3
	109	34 “Prove that $\sqrt[3]{2}$ is irrational”	4

Due January 25, 11:59 pm. No late homework accepted.

