There are questions on *both sides* of this quiz sheet; please don’t forget to notice and do the ones on the back of this page.

**Question 1. [60 points]**

For each of the following claims, mark it true or false. Each true one is (exactly or almost) word-for-word from chapter 7 of Hop-Ull. So if you see a statement that is not word-for-word from Hop-Ull, it is false.

(a) If a language $L$ is accepted by a multitape Turing machine, it is accepted by a single-tape Turing machine.

(b) A two-counter machine can simulate an arbitrary Turing machine.

(c) An arbitrary single-tape Turing machine can be simulated by a deterministic one-stack machine.

(d) If $L$ is r.e., then there is a generator for $L$ that prints the words of $L$ in canonical order and prints no other words.

**Question 2. [10 points]**

State whether you are taking the class under the number 286 or under the number 486 (write 286 or 486 here): __________. Now fill in the blanks, in light of the course number you are taking this under: The course rules state that, to account for broken cars, sicknesses, and all other reasons good and bad, your lowest __________ quizzes will be dropped and your lowest __________ homeworks will be dropped.

**Question 3. [15 points]**

For each of the following claims, mark it true or false. (Give the natural answers; I am not looking for trick/special cases.)

(a) Your homework write-ups must be your own work/words (though if that homework is being done in groups, you and your group partner basically
count as one person, and submit one joint set, and so can and should do
the writing jointly), and so it is cheating for example to copy parts of your
answers from someone else (you groupmate is not “someone else” for the
purposes of this quiz question).

________________________ (true or false)

(b) It is cheating to speak with any other current CSC 286/486 student
about in-progress homework problems.

________________________ (true or false)

(c) It is cheating to ask in-progress homework questions in electronic forums
such as wikis.

________________________ (true or false)

**Question 4. [15 points]** The “Invitation” of the preface of the
Hemaspaandra-Ogihara textbook makes the surprising claim that every
“student of computer science already possess the ability required to un-
derstand, enjoy, and employ complexity theory.” It makes this claim
because the book’s view is that at the heart of complexity theory is:

________________________ (fill this in, either in the ver-
sion of secret 1 of the invitation or in the version of secret 2).