

Name: _____

Student ID #: _____

EECS 170A Section B

Homework #1

HW will be collected in DISCUSSION ONLY.

Do not turn your HW in anywhere else, or it will not be accepted.

You are encouraged to turn it in at your own discussion section.

You may turn it in at any discussion section.

Last option to turn in: Right after Wednesday discussion section October 5, 2005.

DUE: 1 PM Wednesday, October 5, 2005.

Please *staple* this sheet to the front of your homework.

1	2a	2b	Total
/50	/25	/25	/100

- 1) In a modern integrated circuit, there are 10^8 transistors. They fit onto one chip. The chip size is typically about 1 cm x 1 cm. Calculate the area that each transistor occupies. If the area is a square geometry, calculate the length of one side of the square.

- 2) A current of 1 A flows through a wire of diameter 1 cm.
 - a. How many electrons per second flow past a plane perpendicular to the wire.
 - b. What is the current density in the wire.