

Due: Tue 09/16/03, Section 0101 (Chang) & Section 0301 (Macneil)
Wed 09/17/03, Section 0201 (Patel & Bourner)

Instructions: For the following questions, *show all of your work*. It is not sufficient to provide the answers.

Exercise 1. Convert the following decimal numbers to hexadecimal representations of 16-bit two's complement numbers.

- a. 798
- b. 30142
- c. -23456
- d. -1024

Exercise 2. Convert the following 16-bit two's complement numbers in hexadecimal representation to decimal.

- a. FFF0_{16}
- b. 07FF_{16}
- c. 00A8_{16}
- d. 8000_{16}

Exercise 3. Write the following decimal numbers in IEEE-754 single precision format. Give your answers in binary.

- a. 2.54
- b. 2.71828
- c. -74.6875
- d. 64000

Exercise 4. Write the decimal equivalents for these IEEE-754 single precision floating point numbers given in binary.

- a. 0 1000011 01100000000000000000000
- b. 1 1000011 00010000000000000000000
- c. 1 1000000 00000000000000000000000
- d. 0 0000001 11010000000000000000000