

Signature \_\_\_\_\_

Name:  
cs30x\_\_\_\_\_

Student ID \_\_\_\_\_

Score:

**Quiz 1**  
**CSE 30**  
**Spring 2003**

#1. Show the representation of  $-345_{10}$  in the following representation schemes (assume 16-bit words):

- a) sign magnitude
- b) one's-complement
- c) two's complement

#2. Convert  $474_{10}$  into (assume 16-bit words):

- a) binary
- b) octal
- c) hexadecimal

#3. Fill in the CCR bits for the following addition instructions (8-bit two's-complement numbers):

```
  11110110
+ 10001010
-----
```

```
  01101010
+ 01011001
-----
```

```
  N   Z   V   C
-----
|   |   |   |
-----
```

```
  N   Z   V   C
-----
|   |   |   |
-----
```

(over)

**#4. Powers of 2**

$$32K = 2^{\text{---}}$$

$$2^{28} = \text{---} \quad (\text{in terms of K, M, G, etc.})$$

**#5.** In a Big-Endian architecture, show how the bytes are laid out in memory for the following statement (write the hexadecimal values of the bytes in the appropriate memory locations):

```
long john = 0x86753091;
```

0      1      2      3



What is the hex value of the least significant byte? \_\_\_\_\_