

Name:
cs30x_____
Score:

Quiz 1
CSE 30
Winter 2003

#1. Show the representation of -246_{10} in the following representation schemes (assume 16-bit words):

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

#2. Convert 642_{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
+ 00001010
-----
```

```
  10101010
+ 10011001
-----
```

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

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

(over)

#4. Powers of 2

$$16M = 2^{\text{---}}$$

$$2^{18} = \text{---} \quad (\text{in terms of K, M, G, etc.})$$

#5. In a Little-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 = 0x00599584;
```

0 1 2 3



What is the hex value of the most significant byte? _____