

Signature \_\_\_\_\_

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Score: \_\_\_\_\_

**Quiz 1**  
**CSE 30**  
**Fall 2008**

#1. Show the representation of  $-233_{10}$  in the following representation schemes (assume 16-bit words):

a) sign magnitude

b) one's-complement

c) two's complement

#2. Convert  $345_{10}$  into (assume 16-bit words):

a) binary

b) octal

c) hexadecimal

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

```
  00110110
+ 01001010
-----
```

```
  11101010
+ 10011001
-----
```

**N**   **Z**   **V**   **C**

```
-----
|   |   |   |   |
-----
```

**N**   **Z**   **V**   **C**

```
-----
|   |   |   |   |
-----
```

(over)

#4. Powers of 2

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

$$2^{23} = \text{---} \quad (\text{in terms of K, M, G, etc.})$$

#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 shot = 0xDEADBEEF;
```

0      1      2      3



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