

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

**Quiz 1**  
**CSE 30**  
**Summer 2001**

#1. Show the representation of  $-420_{10}$  in the following representation schemes (assume 12-bit words):

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

#2. Convert  $313_{10}$  into (assume 12-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):

$$\begin{array}{r}
 10110001 \\
 + 01010111 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 00110111 \\
 + 01001010 \\
 \hline
 \end{array}$$

N	Z	V	C

N	Z	V	C

(over)

**#4. Powers of 2**

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

$$2^{35} = \text{---} \quad (\text{in terms of K, M, G, etc.})$$

**#5. Inside the CPU:**

The \_\_\_\_\_ decodes the bits from the Instruction Register to determine what instruction to execute.

The \_\_\_\_\_ receives data to operate on from the Register bank, performs the operation on these operands, and stores the result back in the Register bank.