

Name:
cs30x____
Score:

Quiz 1
CSE 30
Winter 2002

#1. Show the representation of -550_{10} in the following representation schemes (assume 16-bit words):

- a) sign magnitude

- b) one's-complement

- c) two's complement

#2. Convert 315_{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):

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

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

N	Z	V	C

N	Z	V	C

(over)

#4. Powers of 2

$$32K = 2^{\text{————}}$$

$$2^{25} = \text{————} \quad (\text{in terms of K, M, G, etc.})$$

#5. List the sequence of operations in a typical instruction cycle and indicate which CPU component is responsible for handling that part of the instruction cycle as discussed in class

<u>Instruction Cycle Operation</u>	<u>CPU Component</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____