Name: cs30x____

Score:

Quiz 2
CSE 30
Summer 2000

#1. a) Fill in the blanks for the appropriate logical equivalence for the following compare/branch:

    mov -49, %l2
    add %l2, 6, %l2
    cmp %l2, 43
    ble label
    nop

if ( ____________________ is ____________________________ to ____________________ ) then
goto label

b) Is the branch taken in the code snippet above? (Circle the correct answer.) YES NO

#2. What is the value (in hex) of %o1 after each set of instructions:

a) set 0xCafeBabe, %o1
    sll %o1, 12, %o1

Value in %o1 at this point is ________________________________

b) set 0xCafeBabe, %o1
    sra %o1, 12, %o1

Value in %o1 at this point is ________________________________

c) set 0xCafeBabe, %o1
    set 0x56784321, %o2
    and %o1, %o2, %o1

Value in %o1 at this point is ________________________________

d) set 0xCafeBabe, %o1
    set 0x56784321, %o2
    xor %o1, %o2, %o1

Value in %o1 at this point is ________________________________
#3. Fill in the SPARC assembly instructions to perform the following statements. **Do not optimize.**

```c
x = 15;

while ( x < 45 ) {
    statement1;
    statement2;
    ++x;
}
```

```sparc
__SPARC assembly__
___  ___, %l0   ! x mapped to %l0

___  test

___:
   /* statement1 */
   /* statement2 */

___: %l0
___:
    cmp  _____ , _____
    __ loop

___
```