

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, %12
add  %12, 6, %12

cmp  %12, 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 0xCAFEBADE, %o1
 sll %o1, 12, %o1

Value in %o1 at this point is _____

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

Value in %o1 at this point is _____

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

Value in %o1 at this point is _____

d) set 0xCAFEBADE, %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 assembly

```
___ ___, %10    ! x mapped to %10
___ test
___
___:
/* statement1 */
/* statement2 */
___ %10
___:
cmp _____ , _____
___ loop
___
```