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

```
mov 48, %l2
sub %l2, 6, %l2
cmp %l2, 43
bg label
nop
```

if ( ____________________ is ____________________________ ____________________ ) 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 0x87654321, %o1
    sll %o1, 16, %o1

Value in %o1 at this point is 0x______________________________

b) set 0x87654321, %o1
    sra %o1, 8, %o1

Value in %o1 at this point is 0x______________________________

c) set 0x87651234, %o1
    set 0x12348765, %o2
    and %o1, %o2, %o1

Value in %o1 at this point is 0x______________________________

d) set 0x87651234, %o1
    set 0x12348765, %o2
    xor %o1, %o2, %o1

Value in %o1 at this point is 0x______________________________
#3. Fill in the SPARC assembly instructions to perform the following statements. Do not optimize.

```c
for ( x = 10; x <= 20; ++x ) {
    statement1;
    statement2;
}
```

```sparc
___  ___, %10  ! x mapped to %10
for ( %10 = 10; %10 <= 20; ++%10 ) {
    __  ____
    __  ____
    __  ____
    loop:
        /* statement1 */
        /* statement2 */
        __  ____
    test:
        __  ____ , ____
        __  ____
        __  ____
```