

Signature _____

Name _____

cs30x _____

Student ID _____

Score: _____

Quiz 3
CSE 30
Spring 2008

- #1.**
a) Write the appropriate **save** instruction to allocate stack space for the following local variables and any padding.

```
long      a;  
char     b;  
short    c;  
unsigned short d;  
char     e;  
char     f;
```

```
save _____ , _____ , _____  
(Use the formula, not an absolute value)
```

- b)** Write the appropriate unoptimized SPARC assembly instructions using the above local variables.

```
a = e;
```

```
d = 0xBABE;
```

```
b = c;
```

```
f = 'W';
```

(OVER)

#2. a) Write the appropriate **save** instruction to allocate stack space for the following local variable declaration.

```
int a[8];
```

```
save _____ , _____ , _____  
(Use the formula, not an absolute value)
```

b) Write the appropriate instructions to perform the following assignment statements.

```
a[5] = a[3];
```

```
_____  
_____
```

```
a[1] = a[4];
```

```
_____  
_____
```

```
int *ptr; /* ptr mapped to %14 */
```

```
ptr = &a[2];
```

```
_____
```

```
++ptr; /* ptr mapped to %14 */
```

```
_____
```

```
int d = *ptr; /* d mapped to %12; ptr to %14 */
```

```
_____
```

```
*ptr = d; /* d mapped to %12; ptr to %14 */
```

```
_____
```

#3. Give the equivalent C array expression for the following pointer expression.

`*(a + 42)` is equivalent to _____ (equivalent array expression).