

Signature _____

Name _____

cs30x _____

Student ID _____

Score: _____

Quiz 3
CSE 30
Spring 2005

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

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

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

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

e = c;

f = 0xBABE;

d = 8675309;

a = b;

(OVER)

#2.

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

```
double a[6];
```

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

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

```
a[1] = a[3];
```

```
_____  
_____
```

```
a[2] = a[5];
```

```
_____  
_____
```

```
double *ptr; /* ptr mapped to %12 */
```

```
ptr = &a[0];
```

```
_____
```

```
ptr++; /* ptr mapped to %12 */
```

```
_____
```

```
double x = *ptr; /* x mapped to %10; ptr to %12 */
```

```
_____
```

```
*ptr = x; /* x mapped to %10; ptr to %12 */
```

```
_____
```

#3. Write the equivalent C expression the compiler really uses for an array index access.

```
short a[10];
```

a[i] is equivalent to _____ in C.