

Signature _____

Name _____

cs30x _____

Student ID _____

Score: _____

Quiz 3
CSE 30
Winter 2009

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

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

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

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

```
f = a;
```

```
c = 0xFADE;
```

```
d = b;
```

```
e = 'A';
```

(OVER)

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

```
int a[7];
```

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

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

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

```
_____  
_____
```

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

```
_____  
_____
```

```
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 assuming a is defined as an array.

a is equivalent to _____ (equivalent array expression).