

Name:  
cs30x\_\_\_\_\_  
Score:

**Quiz 3**  
**CSE 30**  
**Fall 2002**

#1.

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

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

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

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

```
c = 'A';
```

---

```
d = -9876;
```

---

```
e = b;
```

---

```
c = a;
```

**(OVER)**

#2.

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

```
short a[6];
```

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

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

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

```
_____
```

```
_____
```

```
a[2] = a[1];
```

```
_____
```

```
_____
```

```
short *ptr;
```

```
/* ptr mapped to %11 */
```

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

```
_____
```

```
ptr++;
```

```
/* ptr mapped to %11 */
```

```
_____
```

```
i = *ptr;
```

```
/* i mapped to %10; ptr to %11 */
```

```
_____
```

```
*ptr = i;
```

```
/* i mapped to %10; ptr to %11 */
```

```
_____
```