Signature _____ **CSE 11** **Name** _____

Quiz 1

cs11f ____ **Fall 2011** **Student ID** _____

This quiz is to be taken **by yourself** with closed books, closed notes, no electronic devices.

(Partial) Operator Precedence Table

Operators				Associativity
!	++	-- (pre & post inc/dec)		right to left
*	/	%		left to right
+	-			left to right
<	<=	>	>=	left to right
==	!=			left to right
&&				left to right
||				left to right
=				right to left

1. Using the operator precedence table above, evaluate each expression and state what gets printed. Remember short-circuit evaluation with `&&` and `||`.

```
int a = 7;
int b = -1;
int c = 2;
boolean exp1 = !(a + b * c >= a + c * b);
```
_____ (value of exp1)

```
boolean exp2 = c + a < b;
```
_____ (value of exp2)

```
boolean exp3 = !(b - a >= c);
```
_____ (value of exp3)

```
boolean z = !exp1 && exp2 || !exp3;
System.out.print( "z = " + z );
```
_____

```
z = exp1 || exp2 && exp3;
System.out.print( "z = " + z );
```
_____

```
b = --b + ++a % 4 * c++ * 2;
System.out.print( "a = " + a );
```
_____

```
System.out.print( "b = " + b );
```
_____

```
System.out.print( "c = " + c );
```
_____

2. Consider the following code segment:

```
x = y;
y = !x;
x = !y;
```

Assume x and y are initialized boolean variables. Which of the following statements is true?
Circle the letter in front of the true statement.

A. The final value of x is the same as the initial value of x.
B. The final value of x is the same as the initial value of y.
C. The final value of y is the same as the initial value of y.
D. The final value of y is the same as the initial value of x.
E. It is not possible to say anything about the final values of x and y without knowing their initial values.

(Continued on other side)

3. If b is a boolean variable, then the statement

```
b = ( b == false );
```

has what effect? _____

A. It causes a compile-time error message.
B. It causes a run-time error message.
C. It causes b to have the value false regardless of its value just before the statement was executed.
D. It always changes the value of b.
E. It changes the value of b if and only if b had value true just before the statement was executed.

Which of the following is equivalent to and has the same effect as `b = ( b == false );` ? _____

A. `b = ( b == true );`
B. `b = ( b != true );`
C. `b = ( b != false );`
D. `b = ( b == b );`
E. `b = ( b != b );`
F. More than one of the above statements is equivalent

4. What gets printed with each of the following statements?

```
int a = 2;
int b = 0;
int c = 5;

System.out.println( (a + b) + c + " = " + a + (b + c) );
```

_____

```
System.out.println( a + (b + c) + " = " + (a + b) + c );
```

_____

```
System.out.println( (a + b + c) + " = " + a + b + c );
```

_____

5. Assume that `x`, `y`, and `z` are all `int` variables. Consider the following code segment:

```
if ( x == 0 ) {
    if ( y == 1 )
        z = z + 2;
} else {
    z = z + 4;
}

System.out.println( z );
```

Answer: _____

What is printed if `x`, `y`, and `z` are all equal to zero before the code segment executes?

6. If addition had higher precedence than multiplication, then the value of the expression

```
2 * 3 + 4 * 5
```

would be _____.